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TREATMENT OF LOCALIZED APPENDICULAR ABSCESS

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No attempt shall be made in this brief paper to consider the treatment of appendicitis in detail. The time-worn and hackneyed questions of "When should we operate?" and "When should we delay operation?" will be scrupulously avoided, as will many other phases of this familiar subject. It is my intention to confine these few remarks to a consideration of the question, "Should or should we not remove the appendix in practically every case of localized appendicular abscess?"

In perusing the literature on this question, or in attendance at the various surgical clinics throughout the country, we find as probably the most frequently employed plan, the removal of the appendix when it presents itself freely within the confines of the abscess, while in those cases in which it is adherent and buried by the intestinal coils, the operation is limited to simple incision and drainage, leaving the appendix to be removed at some future time. The reason given for the latter course is usually that it is unsafe to separate the adhesions forming the boundary of the abscess, thereby liberating, during the search for the appendix, pus and septic material into the uncontaminated areas of the peritoneum.

This was the course usually employed by me until some two years ago. During the past two years I have operated in one hundred and sixty-one cases of appendicular abscess, sharply localized. This list does not include any case where at operation the general peritoneal cavity was found to be infected. In this series of cases the appendix was removed in every instance at the first operation, whether it could be easily detected within the abscess cavity, or whether deeply buried by adhesions. In these one hundred and sixty-one cases there occurred two deaths, or a mortality of 1.4 per cent. One patient, a little girl aged 4, died thirty-six hours after operation, and the other, a man aged 49, died sixteen days after operation from cardiac thrombosis. These results are infinitely better than those secured by me under the former plan of treatment in which the appendix was allowed to remain undisturbed in a large number of cases.

Since the adoption of the Fowler position and drainage of the peritoneal cavity by means of a large rubber tube inserted to the bottom of the recto-vesical pouch, or cul-de-sac, supplemented by Murphy's saline proctoclysis, peritonitis has been shorn of its terrors.

It was noticed in those cases of diffuse septic peritonitis due to perforation of the appendix which were treated in this manner, that convalescence was almost uniformly rapid and smooth and without distressing sequelæ. In fact, it soon became a matter of common observation that those patients whose appendices had been removed and the above method of drainage employed, recovered more rapidly and more frequently than those with localized abscess, which had been merely opened and drained. If, then, we are no longer afraid of diffuse septic peritonitis, why should we hesitate to remove the appendix in all cases? Such considerations later led to the gradual adoption of the plan of systematic removal of the appendix in abscess cases.

As experience in the treatment of these cases increased and the appendix was removed with increasing frequency at the first operation, it was noticed that during the search for and removal of the same, small pus collections were frequently encountered here and there among the adherent coils of intestine and omentum whose presence had not been suspected, and which would have been overlooked had not the adhesions been separated. Drainage of the larger pus collection would not have reached these smaller hidden septic foci.

It was also noted that in many cases of peri-appendicular abscess which were tightly walled off, even at times high in the pelvis, separation of the adhesions would reveal a large amount of pus or purulent serum in the recto-vesical pouch or cul-de-sac, which would most certainly have been otherwise overlooked. Thus were exposed the reasons for many a secondary operation for so-called secondary abscess.

The free separation of adhesions during the removal of the appendix tends greatly to lessen the danger of post-operative obstruction, which does not occur with nearly the same frequency in cases so treated as in those cases which are merely subjected to incision and drainage of the abscess. The separation of adhesions and the establishing of free communication between the region of the cecum and appendix, formerly occupied by the abscess cavity, and the lowermost pelvic peritoneal fold (the recto-vesical pouch in males, the cul-de-sac in females), permits the best possible drainage to be instituted by the placing of a large split rubber tube carrying a wick or iodoform gauze in the lowermost peritoneal pouch and permitting it to emerge through the lower angle of the wound. This does away with the necessity for multiple drains either of tube or gauze and thereby lessens to no small extent the tendency to the formation of post-operative adhesions. Drainage instituted as above described removes the necessity for placing either tube or gauze in contact with the cecum at a point where its vitality has been impaired by the infectious process, and thus is lessened the occurrence of fecal fistulæ, the development of which is frequently encouraged by the ill-advised placing of such drains in contact with an already weakened and diseased cecal wall, with resulting pressure necrosis.

With the patient in Fowler's position, a large rubber tube will drain the lower peritoneal pouch much more rapidly and completely than the region immediately

adjacent to the cecum can be so drained, as a tube in the latter position will be more rapidly shut in by limiting adhesions than the former; and through the influence of gravity we secure at once the collection of all septic fluids at the most dependent portion of the peritoneal sac, whence they are rapidly discharged to the surface through the tube before its capacity for drainage has been destroyed by surrounding adhesions.

Because of the rapid free drainage so secured, the tendency to post-operative sepsis manifested by hepatic abscess, pylephlebitis, subphrenic abscess, empyema, etc., is much less marked than in those cases where a leaking appendix is permitted to remain and hourly add its burden of septic and infectious material to a cavity imperfectly drained, because slowly drained, and drained for much too short a time.

The removal of the appendix at a secondary operation is frequently a very difficult operation because of the density of the surrounding adhesions and in the majority of instances it will be found much easier to remove it at the first operation and this should now be done rather than subject the patient to a prolonged and often serious second operation.

A few words as to the technic of the operation. The incision is invariably made through the right rectus muscle, splitting the fibers, and the peritoneal cavity freely opened. A small gauze pack is tucked into the upper angle of the wound and so adjusted as to prevent any extravasation of pus toward the liver or diaphragm. Another small pack is tucked in towards the median line from the upper angle of the wound to the lower pelvis to prevent any extravasation towards the left. The abscess cavity is then freely opened with the fingers, unless opened by the peritoneal incision, and the pus rapidly mopped up with gauze sponges. The appendix is then exposed and removed. All adhesions separating the abscess cavity from the lower pelvis are now freely separated and the pus or sero-pus, which is usually found in the lower peritoneal pouch, is rapidly mopped up with sponges. A large split rubber tube, from one-half inch to one inch in diameter and carrying a wick of iodoform gauze, is inserted through the lower angle of the wound to the bottom of the recto-vesical pouch or cul-de-sac, the protecting gauze removed and the wound closed down to the tube with interrupted, through and through, silkworm sutures. Attention is called to the large size of the tube, as I believe the first few hours of drainage are those which count. I had these tubes made to order in 1902 and have employed them ever since for peritoneal drainage.

The one hundred sixty-one cases mentioned above represent but a small portion of peri-appendicular abscesses which have been so treated, as I have been working up to this point for years by gradually increasing the indications for the removal of the appendix in these cases, and they are reported merely because they represent an unbroken series of cases which have been so managed. Since 1902, many cases of diffuse septic peritonitis have been treated by the same form of drainage and increasing experience with its value when so employed seemed to justify the belief that peri-appendicular adhesions may be separated not only with impunity, but under proper precautions, even with benefit.

This method is not advocated for the occasional operator, nor is the claim advanced that it should be invariably employed by men of great experience. However, it is urged that it should be much more frequently employed by competent surgeons than is now the custom, and I believe that the instances in which it is contraindicated should be very rare indeed.

AMYOTONIA CONGENITA

THE REPORT OF A CASE WITH MUSCLE BIOPSY *

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There are two excuses for presenting a paper on amyotonia congenita before this important scientific assemblage: first, the fact that this contains the earliest reported case in the United States in which a biopsy had been performed and a microscopic examination made of the excised muscle; and, second, the paucity of cases that have appeared in the American literature. There is very little material on this subject in the text-books; and the statement holds true for special works on neurology as well as pediatrics.

As yet we can not give the malady a distinctive pathologic description, one which will distinguish it from the myopathies, although I do believe that it is entitled to be classed as a distinct disease. It is a rare neurological condition, but has no doubt presented itself in the past to clinicians, to be placed in the category of one of the muscular dystrophies, polyneuritis or some other disease with palsies.

HISTORY

H. Oppenheim[1] in Berlin was the first to call attention to this group of cases in 1900. He had seen up to that time several patients whose symptoms were noticed first during the earliest few months of life up to the second year, and he could find nothing in the literature covering this complex of symptoms. The diagnostic symptoms given by Oppenheim are hypotonia or atonia, much diminution of active movements, to an almost complete palsy, especially of the extremities, more frequently involving the legs in a greater degree, with no or little apparent loss of volume, a peculiar relaxation and soft feel of the muscles on palpation, marked decrease or abolition of the tendon-reflexes, a decided quantitative reduction of electrical excitability but never a reaction of degeneration. Sphincters, sensation, special senses and intelligence never showed any disturbance. The disease is confined to the skeletal muscles. The diaphragm was not involved. It appears to be a congenital trouble though in some instances it is not observed until many months after birth.

Oppenheim[2] in 1904 again reports briefly the history of a new case designated this time as "Myotonie congenita." Since that time several cases have been reported by his pupils[3] and other German workers.

The Italian literature[4] contains some early reports of cases. Some valuable additions have been made as a result of case reports and investigative work by French neurologists and pediatrists. The contributions from the English scientists are noteworthy. Especially may be mentioned the cases reported by J. S. Collier.[5]

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Oppenheim: Ueber allgemeine und lokalizierte Atonie der Musculatur (Myatonie) in frühen Kindesalter, Monatschr. f. Psychiat. u. Neurol., 1900, viii, 232.

2. Oppenheim: Ueber ein Fall Myatonie congenita, Berl. klin. Wchnschr., 1904, p. 255.

3. Vierordt: Deutsch. Ztschr. f. Nervenh., 1900, xviii; Kundt: Thesis, Leipsic, 1905; Rosenberg: Deutsch. Ztschr. f. Nervenh., 1906, p. 130; Heberman: Am. Jour. Med. Sc., March, 1910.

4. Muggi: Pediatria, 1903, p. 179; Berti: Contribuzione alla atonia muscolare congenita di Oppenheim, read before Soc. ital. di pediat., Bologna, 1905.

5. Collier: Proc. Roy. Soc. Med., 1907-1908, i, Neurol Sec., p. 60; Collier and Wilson: Brain, May, 1908; see also footnotes 9 and 10

The earliest case reported from America was by Spiller,[6] who had the opportunity of performing the first autopsy. I have reviewed closely the case reported by Orbison[7] in 1909, which was classed by him as amyotonia congenita, but which more probably was some organic disease of the central nervous system which has not been excluded in a differential diagnosis. A diagnostic lumbar puncture and a serum test for syphilis should have been made. During the writing of this paper Griffith's[8] case seen in Philadelphia has come to my knowledge.

Collier[9] has collected, all told, forty cases from the literature. More recently Griffith finds forty-eight. I have been able to find forty-four including my own. There are a few cases reported in which there is some doubt about the diagnosis. I am not so sure but that duplicate reports of a very few cases have gone on record.

NOMENCLATURE

The nomenclature is already overburdened with names though our knowledge of the existence of the disease covers a period of only ten years. The first description appears under the title "General and Localized Atony of the Musculature (Myatonia Congenita) in Early Childhood[1]." Oppenheim's[2] second report comes out under the title of "Myatonia Congenita." The name "amyotonia congenita" first appears in the literature in reports by Collier.[10] A few writers, especially Italians, have used the name "Oppenheim's disease." "Congenital muscular atony," "congenital hypotonia" and "congenital amyoplasia" are other titles that have been employed. Myotonia congenita, or Thomsen's disease, may be confused with myatonia or amyotonia congenita on account of a marked similarity in names, but the two are widely different neurologic diseases. A recent text-book on nervous diseases has confused the two terms in its index.

I favor employing "amyotonia congenita," which is concise and a good clinical representative. More discoveries regarding the pathology and exact etiology may or may not indicate changing the name.

Fig. 1.—Specimen from case of amyotonia congenita. Magnification × 118. Hematoxylin-eosin stain. All remaining muscle fibers atrophic, 8 to 12 microns in diameter. Replacement with fat and connective tissue. Muscle nuclei multiplied several times the normal. The muscle fibers have completely lost their cross-striations.

6. Spiller: Univ. Pennsylvania Med. Bull., January, 1905.
7. Orbison: Jour. Nerv. and Ment. Dis., April, 1909.
8. Griffith, J. P. C.: Amyotonia Congenita, THE JOURNAL A. M. A., May 21, 1910, p. 1712.
9. Collier and Holmes: Brain, November, 1909.
10. Collier: Brain, 1907, xxx, 146.

CASE REPORT

The real incentive for presenting this paper to-day is a consultation case that came under my observation recently, a report of which is as follows:

Patient.—Ethel S., female, aged 22 months, was taken on Jan. 6, 1910, to my office by the parents, who reside in the interior of Kansas.

Family History.—The father, whose occupation is that of a carpenter, presents a healthy appearance. He denies any chronic illness, including syphilis. The mother is a plethoric woman and has had no protracted illness. She asserts that she had good health during the intra-uterine life of the patient. She had only one previous pregnancy, which ended in abortion at the end of the second month. Any bad heredity which might have a bearing on the case is denied. The maternal grandmother died from the third apoplectic stroke at the age of 60.

Personal History.—The patient was a nine-months baby and had a normal delivery. The child was nursed by the mother until twenty months old. The feeding of additional food was begun in the sixth month. Teething began at the tenth month. The baby never had any convulsions, could support the head and maintain a sitting posture when six months old. She has never crawled or attempted to walk; began talking at nine months by saying mamma and papa. The child has never cried very much. Control of urination and defecation was acquired at the twelfth month. She has been exceptionally free from acute illnesses, the only one recalled by the parents being an attack of diarrhea, which was mild and ceased in five days. The parents did not perceive the child's malady until the fourteenth month, its inability to use the legs and walk giving the alarm. They consulted a doctor when she was fifteen months old and learned that all the extremities and trunk were involved in the motor weakness. There has never been any tremors. She was treated with 5 grs. of potassium iodid over a period of three months before being seen by me. Electrical treatment had been furnished by a small family faradic battery.

Examination.—The child, when held by a parent or seated, gives a first picture which does not indicate any apparent illness or defect. Nutrition is good. The extremities appear to carry about the normal volume of soft tissues for one of her age. No deformities of the joints or bones are seen. The skin has a healthy, ruddy appearance. There is not the least indication of rickets. The mental development is up to the normal standard. She is attentive, observing and takes an interest in all that is going on about her. Speech and vocabulary are now well developed for her age, and enunciation quite distinct. She has little fear of strangers, is free with her smiles and does not cry readily. The child is attractive, seems unusually good-natured and would excite no suspicion of any retardation of the development of her cerebral functions. Testing each cranial nerve as well as could be done in a child so young, brought forth no evidence of disturbed function, except in the seventh, whose dependent muscles seem to have a trivial weakness, this being particularly observable in an impaired power of expression during changes of mood. All the extrinsic and intrinsic ocular muscles are normal. Hypotonia, one of the fundamental symptoms on which to base a diagnosis of amyotonia congenita, is present in a decided degree in this patient. All the articulations of the upper and lower extremities have excessive joint movements to passive manipulations. Each foot can be placed with ease behind the head and neck. The arms and legs hang flaccid. The mobility of the spinal column in all directions is exaggerated. Motor weakness is evident to a marked degree for all movements of the extremities, the difference between the upper and lower being not great, but possibly slightly greater in the latter. The trunk and neck muscles are comparatively stronger. She experiences no difficulty in holding the head erect or maintaining a straight spine when seated. The muscles for the finer movements of the toes and feet, and especially the fingers and hands, are less affected than the grosser, more proximal groups. The muscles feel soft, flaccid, and there is no appreciable difference between the active and resting states. The atrophy is not

apparent to sight on account of the fatty replacement and a generous layer of subcutaneous adipose tissue. The range for all movements remains unimpaired. The weakness of the deltoids is especially marked. Walking is impossible. When nearly all the body weight is supported by a second person, steps can be taken, though with some difficulty. There is no disturbance of coördination. All the deep tendon-reflexes are abolished, including the patellars, Achilles, supinators, biceps and triceps. The epigastric and abdominals are absent. The conjunctival, corneal and pharyngeal are present. There is no plantar response, tested by the Babinski and Oppenheim methods. Many of the muscles failed to respond to a strong electrical current; others of the extremities respond feebly to a strong faradic and galvanic current. None gives the reaction of degeneration. No disturbance of the various forms of sensation is found. All the special senses seem keen. No subjective pains or discomfort to manipulations are found.

Treatment and Course of Disease.—On May 11, 1910, a report was received from Dr. Shonkwiler, the family physician of Burns, Kansas, to whom, after the consultation, the patient was returned for care and treatment. He states that she seemed to be losing ground for a while after returning home. The helplessness increased as she gained in weight. In February a light attack of pneumonia was contracted, from which a good recovery was made in three weeks. The mother noticed that following this acute illness the baby was able to handle herself much better. The present status is one of considerable improvement in motor power. The mental development continues good. The arsenical treatment, which was not well tolerated, was discontinued early. Regular massage has been given. Strychnin in small doses has been employed. There has been some dieting to prevent too much increase in adipose tissue.

Biopsy.—The patient was taken to the University of Kansas hospital and laboratory, where I removed a small piece of the gastrocnemius muscle under local anesthesia with a .7 per cent. solution of quinin and urea hydrochlorid. A layer of subcutaneous fat 12 mm. thick covered the muscle fascia. A section about 5 mm. square removed from immediately beneath the muscle sheath contained no muscle bundles, all being substituted by fatty tissue. A second deeper section, about 7 mm. square, contained some pale muscle tissue and much fat. The wound bled freely. Unfortunately the piece placed in a Zenker solution for more careful preparation proved to be entirely fat. The other was sectioned immediately with a freezing microtome. Van Gieson, hematoxylin-eosin and Bismarck-brown stains were employed. Muscle bundles can be seen terminating abruptly in a replacing adipose tissue. Some muscle fibers in process of destruction are seen ending in continuity with substituted connective tissue. There is much fatty tissue between the bundles. No hypertrophied fibers can be found. All are quite uniformly atrophied, measuring 8 to 12 microns in diameter. There is a great nuclear proliferation, the sarcolemma nuclei appearing four or five times as numerous as in the normal. The blood-vessels, including the capillaries, have greatly thickened walls, the adventitia showing the greatest amount of increase. The intima is not involved.

DIAGNOSIS

The diagnosis of amyotonia congenita is made in my case without any hesitancy, all the fundamental symptoms being demonstrated. The hypotonia of a severe grade, the marked general skeletal muscular weakness, with soft flaccid muscles, absent deep reflexes, diminution of electrical excitability of muscles, but no reaction of degeneration, no orthopedic deformities, normal mind, normal sensation, no subjective pains, no bad heredity and a general healthy appearance make a strong argument for an undoubted diagnosis. The history regarding a congenital onset is incomplete, but there are a few indications.

In a differential diagnosis several diseases must be eliminated. Poliomyelitis acuta can be excluded by its sudden onset, course, acute febrile period, selection of muscle groups, late trophic disturbances and occasionally musculo-tendinous contractures. Polyneuritis gives pain to pressure and movements, and has a different course and onset. The pseudoparalyses of rickets, scorbutus and Barlow's disease are readily eliminated by their outspoken symptoms, cause and course. In the pseudoparalysis of syphilis we look for other specific symptoms and malnutrition. The Wassermann reaction, or one of its reliable modifications and the diagnostic lumbar puncture should be resorted to where doubt exists. In myasthenia gravis we have a different age, course, electrical findings and bulbar symptoms. Myelitis, hematomyelia and gliosis give afferent tract symptoms. Little's disease with its spasticity is the antithesis of amyotonia congenita. In some cases of imbecility and idiocy there exist much hypotonia and retarded muscular development. The mental defects are evident early, and frequently anatomic stigmata of degeneracy may be found. In cerebellar lesions are found a marked ataxia, normal or slightly increased tendon reflexes and a hypertonia rather than a hypotonia as in amyotonia congenita. The myopathies offer the greatest difficulty in a differential diagnosis. In simple idiopathic muscular atrophy the onset occurs at a different

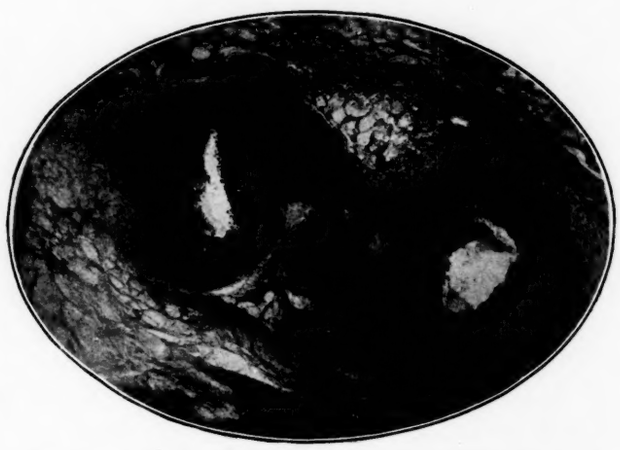

Fig. 2.—Specimen from case of amyotonia congenita. Showing intramuscular blood-vessels with much thickened adventitia and media.

period; there are usually hereditary manifestations, most often similar, a different distribution of the muscular weakness, evident atrophies or pseudohypertrophies, no indication of the condition being congenital and not the same hypotonia of amyotonia congenita.

PATHOLOGY

Our knowledge of the pathology is incomplete. The few autopsies and biopsies indicate that the disease is one primarily of the skeletal muscles or of their motor nerve endings. My biopsy shows a great diminution in size of the muscle fibers and marked increase in number of sarcolemma and muscle fiber nuclei. The myoplasm of many of the muscle fibers has undergone a complete degeneration and is replaced with adipose or connective tissue. The blood-vessels show much thickening, especially of the adventitia.

Spiller[6] has reported the first complete autopsy, in which case were found a diminution in size and a hyaloid appearance of the muscle fibers of the calf and back. The transverse striæ were absent. The spinal cord was normal. Smith[11] studied the ductless glands

11. Smith: Univ. Pennsylvania Med. Bull., October, 1905.

and the hemolymph system in the same case and found the Hassal corpuscles of the thymus gland much increased in size and number. Some of the bodies presented a hyaloid appearance. Oppenheim[12] reflects a doubt about the diagnosis in this case.

Baudouin's[12] excellent post-mortem report shows a slightly arrested development of the anterior horn cells of the spinal cord, spinal roots and peripheral nerves not of an inflammatory nature. He found hypertrophied muscle fibers and many atrophic ones, a sclerosis and a replacement with connective tissue. The blood-vessels were a little thickened. He concluded that it was a regression similar to that found in the myopathies. The thymus gland was sclerosed with a diminished number of Hassal bodies. The thyroid was in a state of hypofunction with an intense sclerosis, little colloid substance remaining.

Collier and Holmes[9] report one autopsy and one biopsy. They found markedly atrophic and hypertrophic skeletal muscle-fibers, replacement of degenerated ones with fat, muscle nuclei multiplied several times the normal and increased connective tissue. The myelin sheaths of the peripheral nerves were poorly developed. The ventral spinal roots contained fewer fibers than are found in the normal. The anterior horn motor cells were diminished in size and number (1/3). Dorsal horns, Clarke's columns and white columns were normal.

Bing's[14] biopsy report with almost negative findings is incomplete.

ETIOLOGY

The etiology is dark. Heredity certainly plays no rôle as a causative factor. The only exception on record is that of Silvestri,[15] where the heredity was dissimilar. The mother learned to walk late, had a slight goiter and osteomalacia during pregnancy. A maternal aunt had a Landouzy-Déjerine progressive muscular atrophy. One brother had a juvenile progressive muscular atrophy with pseudo-hypertrophies. Two brothers had rickets and one myxedema. Theories of disturbance of internal metabolism or the hemopoietic glands have been advanced, but nothing conclusive has been demonstrated.

TREATMENT

For such an essentially chronic disease as amyotonia congenita too few years have lapsed since our recognition of it to lay out any closely defined plan of treatment, and this holds particularly true in view of the undetermined exact etiology. More than 50 per cent. of these cases can be improved, a few being on record where the improvement has been decided. This is one reason for not allowing them to be classed among the myopathies, most of whose forms continue to steadily decline without interruptions. Hygienic, mechanical and medicinal means of therapy may be resorted to.

All these patients are prone to attacks of acute pulmonary infections. In a large percentage of the reported cases the patients have had bronchitis or bronchopneumonia from which the mortality rate has been high. In 16 per cent. of all the known cases the patients have been registered as dying from pneumonia or bronchopneumonia. My patient had an attack of catarrhal pneumonia from which, after the recovery, there was begun a noted immediate improvement in her motor power, possibly due to the loss of some fatty weight. It is not desirous to encourage the addition of much weight dependent on adipose tissue.

Massage properly applied is valuable. It is perhaps proper to caution against kneading the muscles too vigorously or excessively. If electricity is considered, faradism should be used to those muscles which react to the current, and galvanism to those which do not respond to the interrupted form. Cold baths have been employed, but I would favor the hot should hydrotherapy be indicated. Strychnin in small doses over long periods may be beneficial. Phosphoric and arsenical preparations are worthy of a trial.

CONCLUSIONS[16]

My few concluding remarks shall be confined to a discussion concerning the question of amyotonia congenita being admitted as a distinct disease.

The most likely field for argument is that of the myopathies. In a discussion of this point before the neurological section of the Royal Society of Medicine of London in the spring of 1909, Collier made a strong plea for its entity in the list of classified nervous diseases. Batten vigorously opposed this position, maintaining that it should be considered as one of the myopathies. I see no other location for this rare neurological condition excepting among the myopathies if we refuse to allow it to stand by itself.

Bing's[14] case, in which a biopsy was performed, showed little or no muscle changes, which prohibits it from being classified as either amyotonia congenita or a myopathy. The description sounds like that of a mongolian imbecile.

Oppenheim[12] in his most recent text-book on nervous diseases has treated the malady in a curious manner, a short space being devoted to the subject under the differential diagnosis of poliomyelitis acuta.

Unfortunately as yet we cannot turn to the pathologic findings to support the contention for placing this group of cases in a class by themselves. The strong support from clinical findings gives us sufficient encouragement to allow the disease to have a real existence.

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The Hot-Air Douche in Treatment of Skin Diseases.—P. Ravaut commends this method of treatment and relates his favorable experiences with it in a number of cases of nevi, lupus (after a preliminary curetting), tuberculous lesions in the skin, epithelioma, leucoplasia of the internal surface of the cheek, hypertrophic acne of the nose, vulvar pruritus and lichenification, torpid ulcerations and to get rid of tattooing. With the latter, after giving chloroform, a mild jet of superheated air was played on the epidermis which was scraped off as it was lifted up from below; the tattooed zone was then curetted, the hot-air douche drying the oozing blood. His communication on the subject is published in the *Annales de Dermatologie*, March, 1910, page 145.

12. Oppenheim: Nervenkrankheiten, Ed. 5, Vol. i, Die Poliomyelitis anterior acuta, Differential diagnose, p. 242.
13. Baudouin: Semaine méd., 1907, p. 241.
14. Bing: Med. klin., 1907, i, No. 6.
15. Silvestri: Gaz. d. Osp., 1909, xxx, 577.

16. Other literature, not referred to elsewhere, is as follows:
Schüller: Wien klin. Wchnschr., 1904, p. 722.
Hagenbach-Burchardt: Jahrb. f. Kinderh., 1904, p. 47.
Tobler: Jahrb. f. Kinderh., 1907, xiv, 33, No. 1.
Ausset: Bull. Soc. de méd. du nord, 1908.
Gastonquay: Bull. méd de Quebec., 1908-1909, x, 97.
Levi-Sirugue: Gaz. d. hôp., 1909, lxxxii, 173.
Coombs: Brit. Med. Jour., June 15, 1907.
Leclerc: Gaz. d. hôp., 1907, lxxx, 1683.
Variot: Bull. Soc. de pédiat. de Paris, 1907, ix, 246.
Simonini: Riv. di. clin. pédiat., 1907, v, 845.
Smith: Univ. Pennsylvania Med. Bull., October, 1905.
Sorgente, P.: Due casi di atonia musculare congenita di Oppenheim, Pediat., May, 1906.
Iovane: Pediat., March, 1906, xiv.
Cattaneo. Bull. della clin., 1906, viii.

ACUTE YELLOW ATROPHY OF THE LIVER

A CASE FOLLOWING TWO CHLOROFORM ANESTHESIAS IN QUICK SUCCESSION IN A PREGNANT WOMAN

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All of us who have ever used chloroform as an anesthetic to any extent are familiar with the immediate dangers to the life of the patient during its administration, and there have been recently some good papers dealing with its deleterious effects. There has also been some good experimental work which has given us a good working basis for clinical observation of the cases of delayed chloroform poisoning.

Leonard G. Guthrie, in 1894, was the first to call attention to cases of delayed chloroform poisoning. In that year he reported nine cases in which death occurred within from ten hours to six days after operation performed under chloroform.

The symptoms as observed by Guthrie were, after a period of twelve hours or so, profuse and repeated vomiting, the vomit eventually blood-stained and resembling the dregs of beef-tea; restlessness; excitement and delirium alternating with apathy; jaundice, occasionally, and unconsciousness deeping into coma.

The following case came under our observation in the wards of the Memphis City Hospital last winter, and is, we think, of value as an example of the profound delayed toxic effect of chloroform which may occasionally occur. We think, in the light of the experiments of Whipple and others, and of clinical experience, that many patients who are anesthetized by chloroform, and recover, suffer similar effects, but in a milder degree.

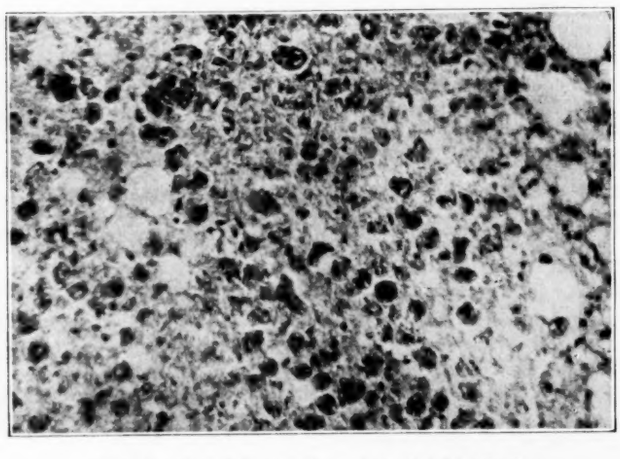

Fig. 1.—Area of necrosis and partial histolysis.

REPORT OF CASE

Patient.—A negro woman, aged 18, unmarried, chambermaid, admitted to the City Hospital Feb. 6, 1910, at 10 p. m. Family history and previous personal history negative.

Present Disease.—On February 5 the patient had abdominal cramps and headache with moderate uterine bleeding. These symptoms continued until admission into the hospital. On admission, the patient was bleeding somewhat, and a physical examination showed that she had had an incomplete abortion at the third month. Temperature was 101, pulse 100. The patient denied having used artificial means to produce the abortion. She was of a very low order of mentality, and would allow nothing done without an anesthetic. She was given chloroform and tamponed. The pains continued part of the night, then ceased. The next morning, Feb. 7, 1910, she was again anesthetized with chloroform, the tampon removed and a curettement done. Each anesthesia was of about twenty-five minutes' duration. The pulse and temperature immediately dropped to normal and continued so until the morning of Feb. 9, forty-eight hours after the curettement, when she complained of not feeling well, and during the day developed jaundice, nausea, vomiting, with rapid pulse and delirium; these symptoms gradually increased in severity until February 12, three days after their beginning and five days after the curettement, when the patient had convulsions, followed by coma and death in a few hours. There was a complete suppression of urine, which prevented a urinalysis being made. From these symptoms, with the previous history, the condition was diagnosed on the first day to be acute yellow atrophy of the liver, due to chloroform poisoning with the additional toxemia incident to pregnancy.

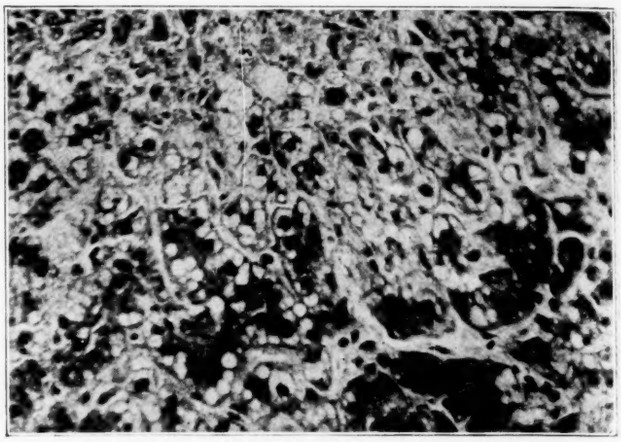

Fig. 2.—Small area adjoining portal space, showing fatty degenerated liver cells in periphery of lobule. Notice great degeneration proceeding towards center.

AUTOPSY

Made twelve hours after death. Body of a fairly well-nourished young negro woman. Rigor mortis present. Frothy exudation with a yellowish tinge seen about the nose and mouth. Sclera, palms of hands and soles of feet deeply jaundiced. Abdomen slightly distended. On section of wall of abdomen, deeper tissues were found bile-stained. Mesentery, omentum and intestines were bile-stained. Liver about two-thirds normal size. Surface smooth and presenting a uniformly yellow-brown color, spotted with areas of hemorrhage varying in size from a split-pea to a 25-cent piece.

Section showed parenchyma of the same appearance as surface. Consistency almost diffluent. No resemblance at all to normal liver tissue. Appearance seemed uniform throughout both lobes.

Gall-bladder about half full of yellowish-green bile. Bile-ducts patent.

Spleen enlarged to about twice normal size. Soft in consistency. Heavier than normal. Dark red in color. Section had the appearance of an acute splenic tumor.

Kidneys increased one-third in size. Soft in consistency. Dark in color, with areas of hemorrhage beneath capsule. Capsule easily stripped. Section showed surface dripping with blood. Cortex swollen to twice normal size. Absence of striations in cortex and medulla. Venules prominent. Pelvis and ureter normal.

Pancreas and pelvic organs apparently normal, except for increase in size of uterus. Bladder empty.

MICROSCOPIC EXAMINATION

The capsule of the liver was normal, save for a moderate infiltration of lymphoid cells.

The larger bile-ducts were almost empty. Epithelial cells lining basement membranes were slightly hypertrophied, and in some places desquamating. The walls of the bile-ducts were seen to be moderately infiltrated with lymphoid cells (Figs. 1 and 2).

The blood-vessels in the portal area and those in the center of the lobules were found empty and of normal size. Most of the lobules were the seat of extensive necrosis which is apparently most pronounced in the center. In some places the protoplasm had entirely disappeared from the cells, and nothing appeared to remain but their shells. The interstitial tissue was not hypertrophied, but, on account of the autolysis of the cells, was distinct.

Away from the center of the lobules the cells still preserved their form, but contained a very indistinct nucleus, and either numerous fine granules or from one to three large fat droplets.

About the portal area there could be seen, in a few places, one or two rows of liver cells that are fairly normal (Fig. 3).

Throughout the section of the liver there could be seen absolutely no effort at regeneration.

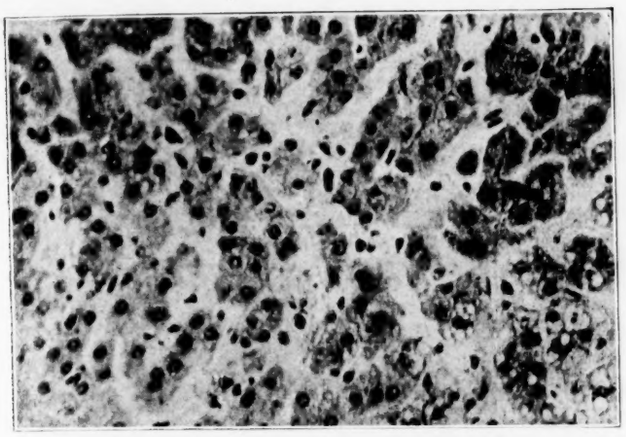

Fig. 3.—Comparatively intact liver tissue.

There is little reason to doubt that the anesthetizing with chloroform was the exciting, if not the entire cause of the extensive degeneration of the liver which presented the appearance of an acute yellow atrophy.

According to Rosenfeld, when the liver cells are poisoned by chloroform their metabolism is so altered that while they can utilize carbohydrates well, they can oxidize proteids but imperfectly, and fats even less well; consequently, as soon as the cells have used up their meager store of carbohydrates, their hungry condition causes a breaking down of tissue proteid and a transference of fat to them; or it may be, as has been suggested by Councilman, that the abnormal presence of fat in the cells represents some combination of fat with proteid.

This case corresponds closely with the majority of cases reported in the literature, and to the appearance of the lesions in the cases of experimental chloroform poisoning given in the report of Whipple. It is remarkable in its very early appearance and the extensive degeneration of the liver.

Lumbar Puncture for Convulsions in Children.—F. Schiffer believes that the convulsions may lead to disturbances in the circulation in the brain and meninges which give rise to new convulsions. This vicious circle may be broken up by lumbar puncture, and Schiffer relates two cases in which this was done with apparent success in epileptic children. The number and intensity of the seizures seemed to be materially reduced by a single lumbar puncture, but in his communication on the subject in the *Klinisch-therapeutische Wochenschrift*, 1910, xvii, 481, he does not claim that this measure will prove invariably successful. He is convinced, however, that the accumulation of seizures is not the work of the primary cause but of the convulsions themselves, and where this has occurred, lumbar puncture may give great relief.

A METHOD OF DETERMINING OCULAR DOMINANCE

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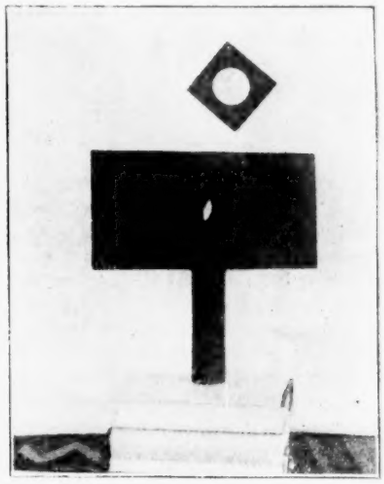
The question of a dominant eye does not seem to be considered of any consequence by the medical profession or even by its ophthalmologists. Probably few, indeed, realize that one eye is chosen unconsciously for the more rapid, accurate, and delicate visual perceptions, just as the dextral hand is chosen by the right-handed for the performance of all the more delicate and expert tasks, especially in learning them. The significance of ocular dominance in its relation to sport has been brought out by a newspaper reporter, and in its relation to right-handedness and left-handedness, by an oculist in a volume so entitled. The value of the determination of the dominant eye in refraction needs further outworking and rating, but a simpler method of making the test than the one to be suggested could scarcely be found.

The idea of ocular dominance is by no means a new one. Ioan Baptista Porta,[1] writing "De Refractione," in 1593, reviews the opinions of "the ancients and moderns" concerning vision with two eyes, and advances his own conclusions from observations. "Nature has bestowed on us eyes in pairs," he says, "one at the right hand and one at the left, so that if we are to see anything at the right hand we make use of the right eye.... whence we always see with one eye, although we think that both are open and that we see with both." This thesis he proved by two "arguments" or experiments: "Between the two eyes let there be placed a partition to divide the one from the other, and let us



Simple instrument for determining the dominant eye.

place a book before the right eye and read. If any one shows another book to the left eye it will not only not be able to read, but it cannot even see the pages unless in a moment it withdraws the visual virtue from the right eye and changes it to the left." His second argument is as follows: "If any one places a staff before him and brings it directly opposite some crack that exists in the opposite wall, and notes the place, when he closes his left eye he will not see the staff removed from the opposite crack, the reason being that every one looks with his right eye as he uses his right hand," etc.

1. Porta, Ioan. Baptista: De Refractione optices parte, Neapoli, apud Io. Iacobum Carlinum et Antonium Pacem, 1593.

Until quite recently this second method has been used in this office to determine ocular dominance.[2] During the fall of 1909 there appeared in a New York paper an article on the "Master Eye," in which the author shows that in the realm of sport the master eye directs and controls the marvelously quick and accurate movements of successful players. To demonstrate beyond doubt the fact of the existence of a "master eye" he directed that a round hole be cut in a piece of cardboard, the disc thus cut out being placed on the floor in front of the person tested. The cardboard is held at arm's length and the disc observed through the hole. Inasmuch as the disc can be seen only with one eye at a time, one will select his "master eye" to see it. The method was so simple, the demonstration so convincing, that modifications and further improvements of the method were immediately devised. The modifications consisted simply in narrowing the field of vision by placing a short tube in the hole of the cardboard, and, second, in increasing the convenience of using the apparatus by adding a handle, blackening the instrument, etc. The instrument we now use is simple, light, home-made, and effective. It is constructed as follows:

In the center of a piece of black cardboard about a foot long and half as wide is cut a round hole exactly the size of a pasteboard mailing-tube. A piece of the tube about 4 inches long is thrust through the hole. The fit should be snug enough to hold the tube in place, but it is further strengthened by glue applied to the joint on both sides of the cardboard screen.

This is the essential part of the instrument, but for the sake of convenience another piece of the mailing tube about 7 or 8 inches long is used as a handle. In order to fit the handle to the above-described portion of the instrument, slits as wide as the cardboard screen is thick, are cut lengthwise of the handle at opposite ends of a diameter of the tube. Crescent-shaped segments are now cut from the upper end of the handle, with the tips at the upper ends of the slits just mentioned. The handle is slipped into position and glued at every joint. A glance at the accompanying illustration will show the method of construction, as well as the completed instrument. The illustration also shows the white "target" and the dead blackness of every other part of the apparatus.

With the patient sitting or standing squarely before the white disc opposite him on the wall at the level of the eye, the instrument is presented to him and he is instructed to hold it at arm's length so that he can, with both eyes open, see the white spot through the tube. If the patient is right-eyed and the left eye is covered with a piece of black cardboard or blotting-paper, the disc remains in view through the tube; if the right eye is covered he sees only the screen of the instrument. It is, of course, impossible for the patient to see through the hole with both eyes at once, and the great majority of people find that naturally they can get a clear image of the white spot with one eye only.

Whether any means of determining ocular dominance ever comes into general use remains to be seen. It seems, however, with this principle in mind, a competent oculist, with the good of his patient at heart, will not, in prescribing glasses, injure a naturally right-eyed man with left-eyedness, when the proper correction of the error of refraction would preserve right-eyedness. Furthermore, in certain cases, it should be his endeavor to change a left-eyed but right-handed man into a right-eyed man, so that, for example, he would not have to depress his head sufficiently to sight with his left eye in shooting a gun from the right shoulder. Certain it is that a naturally right-eyed and right-handed patient, recently artificially made left-eyed by glasses, will have good reason to bless you for making him right-eyed again with correctly fitted lenses.

For the oculist there arise many problems in reference to his "mixed" cases, or those with "equidominance." Occasionally he will catch one in the very process of becoming "mixed"; that is, by bad glasses, by growth of ametropia, or by switching of the axis of astigmatism in the formerly dominant eye. In such instances there will be a dangerous period of struggle for dominance between the two eyes. One eye must be chosen or the patient may suffer injuries from accident. One of our patients, for example, a physician, who had heretofore driven his own automobile expertly, found himself unexplainably and suddenly running into curbstones and telegraph poles. By reinstating his habitual dominance, which had been reversed by incorrect lenses, he at once gained his previous skill in locating objects, etc. The fact, as was pointed out six years ago, has significance also in cases of inflammatory diseases and operations on one eye.

2. Gould, G. M.: Right-handedness and Left-handedness. J. B. Lippincott Co., 1908, p. 30.

CRYPTOPHTHALMIA

WITH REPORT OF TWO CASES

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In cryptophthalmia we have a total congenital ankyloblepharon and symblepharon, and there is also invariably abnormality of the eyeball and often of the orbit. In addition other abnormalities are generally present, especially syndactylism (Manz, Chiari, Otto); and malformation of the genitalia (Manz, Chiari), meningoencephalocele (van Duyse), hare-lip (Chiari), cleft palate, facial fissure, malformed concha, atresia of the larynx (Chiari), ventral hernia (Manz), aplasia of the kidneys, etc., have been observed.

The first case of cryptophthalmia was recorded by Zehender and the patient examined anatomically by Manz, 1872. Cases have since been recorded by Hocquart, Chiari, van Duyse (two cases), Fuchs, Otto, Bach and Karmann; seven patients have been examined anatomically. In six cases the abnormality was bilateral, in three unilateral. Consanguinity in the parents has been recorded once only. The cases reported in this paper were both bilateral.

In this condition the skin passes continuously from the brow over the eye to the cheek. In almost every case there is some indication of a palpebral fissure, which appears as a shallow, linear depression, or as a white line of scar tissue. Some authorities state that the eyelashes are always absent, but they were found in both of my cases. There is occasionally a small depression in the situation of the palpebral fissure; in Hocquart's case, folds of skin radiated from it, and in van Duyse's, in a pigeon, it measured 2.5 mm. Eyebrows are usually present, two cases being reported in which they were absent. The eyeball can always be felt under the skin; it shows spontaneous movements, proving the presence of extrinsic muscles. There is evidence that the eye is always responsive to bright light, as shown by wrinkling of the skin; this further proves the presence of the orbicularis. This muscle, the levator palpebræ, and the other extrinsic muscles, have also been demonstrated anatomically. Anatomic investigations show further that the lids are not always absent. Van Duyse and others found remnants of them. Bach alone found

Meibomian glands and a tarsus in the upper lid. The raphe consisted of scar tissue in Chiari's case, but showed only dense structure, and aggregation of sweat glands in van Duyse's. Traces of the conjunctival sac have been found, but it is usually completely absent. The eyeball is invariably disorganized. In fact, the condition may be so extensive as to justify Wernicke's term, "cicatricial crytophthalmia." "The cornea is converted into vascular scar tissue, often ectatic. The iris is adherent to the cornea, or more or less completely atrophied. The lens may be represented by only a few large vesicular cells behind the cornea or may have disappeared. The ciliary body and chorioid show these changes familiar after severe inflammation, or are absent."[1]

The etiology of these abnormalities offers the usual difficulties. Manz considered that the lids were not formed (ablepharon by agenesis). There can be no doubt that in some cases, as in the two here reported, the lids are partially formed and for some reason become united (ankylosymblepharon by ankylosis). Treacher Collins advances the theory that the condition of the eye is the result of a defective development of the lids and conjunctival sac and that owing to the absence of the lids, the conjunctiva develops into skin.

Pressure by the amnion is given as a cause by Kundrat and van Duyse, and this is supported by the coincidence of syndactylism, but it is difficult to construct the exact mode of action.

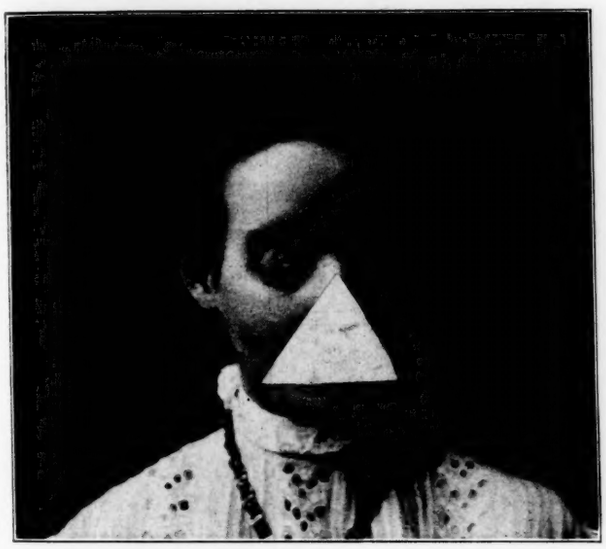

Fig 1.—First patient with cryptophthalmia.

Fig. 2.—Second patient with cryptophthalmia.

CASE 1.—Mrs. R., aged 24, American, born with the upper and lower lids of both eyes firmly united (ankylosymblepharon by ankylosis), in every other way is a perfectly developed woman. An indication of the palpebral fissure in the form of a shallow depression corresponding to the curvature of the lids appears in each eye. Well-formed eyebrows are present. About midway between the lower margins of the upper lids and the margins of the orbits are two rows of hairs. At these points there are slight depressions in the surface of the lids—a pitting of the skin.

The patient gives a history of light impression at an early age. She could recognize when a bright light was flashed in her face. The patient's mother states that when the patient was 2 years of age, the left eye was opened by a surgeon and an imperfectly developed eyeball was found. Four years later Dr. E. M. Marbourg of Colorado Springs and I opened the lids of the right eye. A small ball was found, which was imbedded in a mass of connective tissue and occupied the nasal side of the orbit. No corneal tissue could be determined macroscopically. Two years after the operation, light perception was lost entirely.

There was no history of consanguinity; nor as far back as could be traced was there a history of any congenital defect.

The patient was educated in a school for the blind and at 22 years of age she married an inmate of a workshop for the blind, who had lost his eyes in a mine explosion about five years ago. Their baby when born was a duplicate of the mother.

CASE 2.—Hazel R., aged 7 months, at birth weighed 8¼ pounds and was in every other way a perfectly formed child. The tissue at the point of union of the lids had somewhat the appearance of scar tissue, but is probably a modified conjunctiva. A few cilia could be seen on the margins of the imperfect lids, more particularly on the lower. There was a partially formed caruncle in each eye. The orbits were slightly narrowed in their vertical diameter, there seeming to be a bulging downward of their superior margins at about the site of the supraorbital foramina. By palpation one could determine the presence in each orbit of a small eyeball, but owing to the apparent thickness of the lids, it was impossible to form any estimate of its size. The right appeared to be the larger.

When a bright light was flashed in the face, there was a reflex movement of the eyelids and a slight wrinkling of the brows. Careful probing along the sites of the palpebral fissures failed to reveal any opening at any point.

The right eye was chosen for operation and an incision was made along the palpebral depression from within outward. There was a complete symblepharon, the upper and lower lids having to be dissected away from what appeared to be a mass of connective tissue. There was considerable hemorrhage. Retracting the lids and inserting the finger, a small eyeball could be felt. Dissecting away the mass of tissue with the handle of a scalpel, an imperfect eyeball was exposed. In drawing it outward and forward with the forceps, a small point was brought into view, which had the appearance of imperfectly developed corneal tissue. The spot was about 2 by 3 mm. and was situated to the nasal side of the globe. No extrinsic eye muscles could be detected macroscopically. By passing a strabismus hook back of the eyeball, the presence of an optic nerve could be determined.

In the dissection, the sclerotic was accidentally snipped by the scissors at one point and some fluid vitreous escaped. There being no possibility of any vision, the lids were closed and the wound dressed.

California Building.

1. Parsons: Pathology of the Eye, iii, 779.

A BILATERAL HERPES ZOSTER

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AND
R. C. JAMIESON, M.D.
Junior Dermatologist to Harper Hospital
DETROIT

The unusual rarity of recorded cases of bilateral zoster makes them worth reporting; though such cases are scattered throughout the literature, they have been very infrequent when compared with the number of cases of the unilateral variety. The relative proportion will never be known, as the ordinary "shingles" is too common to be reported or recorded, in that a large percentage is seen by the general practitioner or not at all. The grandmother, as in ringworm and boils, often makes the diagnosis, and says that if the lesions do not girdle the patient he will recover; if they girdle or meet he will die. The cases of bilateral zoster reported by observers from different parts of the world are, without doubt, only a small percentage of the number that really occur, as many cases are not reported and probably are not diagnosed properly. While bilateral zoster is generally supposed by older authorities to be of syphilitic origin (yet unproved), no history of spyhilitic infection can be obtained in the present case, nor has the patient a single trace, clinically, of an old syphilis, although one might pre-suppose its existence on account of the patient's occupation, he being a sailor.

REPORT OF CASE

Patient, J. F., aged 47; occupation, sailor. There is nothing of interest or at all suggestive in his family history which would have an influence on the present condition. His mother died at 60 from carcinoma of the stomach, one brother died of

Fig. 1.—Showing bilateral lesions, dorsal aspect.

alcoholism, and two sisters died in infancy, the cause of death not being known to the patient. There is no hemophilia or other hereditary disease in the family. The patient has had pneumonia, typhoid fever, malaria, and gonorrhea (twice), but syphilis is denied. When he was 8 years of age his back was injured at the site of the present eruption, but had given him no trouble for years.

He came for treatment on account of having red lesions on the right side of the body, which appeared three days before his entrance into the hospital. At that time the lesions were only on the right side and had been preceded and accompanied by severe pain in the area affected. Two days after admission lesions began to appear on the left side at the same level as the first lesions. The eruption on the right side began at the twelfth dorsal and first lumbar vertebræ, extended across the back and abdomen to the median line, also downward and inward over the thigh and crural region. On the left side the lesions extended at the same level as far as the mid-axillary line, and a few days after the photograph was taken some lesions developed on the left anterior abdominal wall, which were too extensive to be accounted for by an anomalous distribution of a cutaneous branch.

Since this report was completed, a case has come to notice in which the patient claims to have had a bi-

Fig. 2.—Showing lesions distributed over upper portion of thigh.

lateral zoster fourteen years ago, but there are no means of proving his assertion.

The accompanying illustrations show the areas affected.

This case was studied and reported through the courtesy of Surgeon R. M. Woodward of the Detroit Marine Hospital.

THE ACTION OF ALCOHOL ON THE NORMAL INTACT UNANESTHETIZED ANIMAL*

CLYDE BROOKS
CHICAGO

INTRODUCTION

Heretofore, on account of the objectionable methods employed, so far as I know no adequate direct observations have been recorded on the action of alcohol on the general blood-pressure of the intact animal. One objectionable feature is that these methods have as a rule involved the employment of a general anesthetic, such as chloroform or ether; and it is not easy to distinguish the normal action of alcohol when administered to an animal already far under the influence of a very closely related drug of the same group. For example, how could one distinguish the normal action of alcohol on the general blood-pressure of an animal when its vasomotor reflexes were already greatly depressed by ether or chloroform? One of the means employed to avoid the use of anes-

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

* From Hull Laboratory of Experimental Therapeutics, University of Chicago.

thetics is to remove the cerebral hemispheres.[1] But this is a poor makeshift, for an animal with its cerebral hemispheres mutilated is so profoundly altered that it is unfit for physiologic researches on the general blood-pressure.[2] Therefore, in order to obviate the necessity of decerebration, general anesthesia, or other objectionable practice, methods were devised for studying the blood-pressure in the normal (intact) animal by which tracings were obtained practically without pain to the animal and without the need of anesthetics. From a historical point of view it would seem that this should be one of the most natural and almost inevitable steps next to be taken in the development of blood-pressure methods.

HISTORICAL SKETCH

So far as we know Stephen Hales,[3] the clergyman and scientific experimenter, was the first to measure blood-pressure. He caused various domestic and wild animals to be tied down while he operated on them, of course, without anesthetizing them, as anesthetics were unknown at that time. He inserted into the artery a brass tube, and to that, by means of another brass tube which was fitly adapted to it, fixed an upright glass tube about 9 feet in length. When these parts were shoved together, making a tight joint, the blood was allowed to rise in the upright glass tube. Later he improved the apparatus by using a goose's windpipe for making a pliable joint between the two brass tubes. In order to meet the criticism that changes in the general blood-pressure were caused by occlusion of the vessel under observation, Hales devised a method of taking the pressure measurements from the side of the blood-vessel, leaving the lumen open. He took a cylindrical wooden stick with a hole bored through it from end to end and another hole bored into it at right angles tapping the lengthwise hole. The stick was then split lengthwise into halves and these halves were fitted and cemented with hot pitch around the blood-vessel. After cutting a hole into the blood-vessel where it was exposed at the bottom of the side hole, the upright glass tube was quickly fitted into the side hole and the blood allowed to rise in the tube. By these methods, before the dancing red column had time to clot, he succeeded in measuring with considerable accuracy the changes that took place in the blood-pressure. From these measurements he forecast with remarkable correctness many of the main facts now known of the physiology of the circulation.

Poisseuille[4] made the next improvements by the use of the U-shaped glass tube filled with mercury in place of the upright glass tube filled with the animal's own blood, and also by the use of saturated solutions of sodium carbonate to prevent clotting in the manometer tubes. These changes brought the apparatus into smaller compass and gave direct readings in terms of mercury pressure and allowed long-continued observations on the same animal.

Ludwig[5] saw that the mercury in the open end of the Poisseuille manometer could be made to carry a float with writing point which could be made to trace a record. This led him to the invention of the kymograph to carry the paper on which the point could write. The graphic method made possible a permanent and indisputable record which could be studied at leisure in detail.

More recently there have followed methods for special purposes, such as the more accurate determination of the maximal and minimal pressures by such devices as the maximal and minimal valved mercury manometers, or by the more mobile manometers—one devised by Fick,[6] another by Hürthle;[7] or such as the various more or less accurate methods of determining the blood-pressure in man by the use of some form of the sphygmomanometer, the principle of which was first used by Basch[8] and later modified by Riva-Rocci,[9] by Erlanger[10] and others. These mobile manometers, or maximal and minimal valved manometers, permit a more accurate determination of the maximal and the minimal blood-pressures; but they do not give a direct graphic picture of the changes in the blood-pressure in terms of mercury pressure. The sphygmomanometer has the advantage that it can be used on man or the intact animal; but it does not give a direct graphic picture of the blood-pressure.

Fig. 1.—Sketch of T-shaped cannula with a piece of rubber tubing attached to side arm which is closed by a paraffined cotton plug which has a string attached for a handle by which the plug may be withdrawn. When used the cannula is interposed between the ends of a transected artery restoring the circulation through the artery, and the wound is closed leaving the side arm protruding through the skin. After the recovery of the animal from the anesthetic, the blood-pressure is studied by removing the ligature from around the distal end of the rubber tubing, then withdrawing the cotton plug by means of the string handle, and then quickly connecting the side arm with the manometer and pressure bottle.

Fig. 2.—Trocar cannula for taking blood-pressure tracings from an unanesthetized animal. The sketch shows the obturator in place ready for insertion into the artery. The operator can tell when the point of the trocar has been successfully thrust into the lumen of the vessel by the blood dripping from the side-hole shown near the blunt end of the obturator. When the trocar has been properly inserted the obturator is entirely withdrawn and the blood-pressure taken with a mercury manometer which, with the pressure bottle, is already in connection with the rubber tube shown in the sketch.

From this sketch it would appear that, while the mercury manometer furnishes the best graphic record showing blood-pressure changes diectly in terms of mercury pressure, yet it does not give a true measure of the maximal or the minimal pressures, and it also is used while the animal is under a general anesthetic. On the other hand, while the other methods may furnish a more accurate measure of the maximal or minimal pressures, and some of them may be used on man or the intact

1. Dixon, W. E.: The Action of Alcohol on the Circulation, Jour. Physiol., 1907, xxxv, 346.
2. François-Franck: Leçons sur les fonctions motrices du cerveau, Paris, 1887, p. 167.
3. Hales, Stephen: Statical Essays: Containing Hemostatics; or an Account of Some Hydraulic and Hydrostatical Experiments Made on the Blood and Blood-Vessels of Animals, London, 1732.
4. Poisseuille, L. L.: Recherches sur la force du cœur aortique, Thèse, Paris, 1828, p. 23.
5. Ludwig, C. C.: Beiträge zur Kenntniss des Einflusses der Respirations-Bewegungen auf den Blutlauf im Aortensysteme, Arch. f. Anat. Physiol. u. wissensch. Med., 1847, p. 242.
6. Fick: Arch. f. d. ges. Physiol., 1883, xxx, 597.
7. Hürthle: Arch. f. d. ges. Physiol., 1888, xliii, 426.
8. von Basch, S.: Centralbl. f. Physiol., 1896, x, 330.
9. Riva-Rocci: Un nuovo sfigmomanometro, Gazz. med. di Torino, 1896, No. 50, p. 51.
10. Erlanger, Joseph: A New Instrument for Determining Systolic and Diastolic Blood-Pressure in Man, Am. Jour. Physiol., 1902, VI, xxxi.

unanesthetized animal, yet they fail to give a direct graphic record of the blood-pressure changes in terms of mercury pressure.

METHODS

Therefore it seems that there is still great need of, first, a practical method of connecting the manometer with the blood-vessel without pain to the animal, and therefore without the need of an anesthetic; and, second, a manometer that will record faithfully and graphically in terms of mercury pressure all the quick, minute changes in the blood-pressure. My methods are designed to meet as far as possible the first need.

Three slightly different methods have been employed. As these have been described in a separate article,[11] only brief mention of them is necessary. One method was to insert a thin-walled glass T-shaped cannula (Fig. 1) between the ends of the cut carotid artery, restoring the continuity of the vessel but bringing the side arm, which was closed with a paraffined cotton plug, out to the surface of the skin of the neck. After the recovery of the animal from the anesthetic the cotton plug was withdrawn from the side arm and connection made with the pressure bottle and mercury manometer.

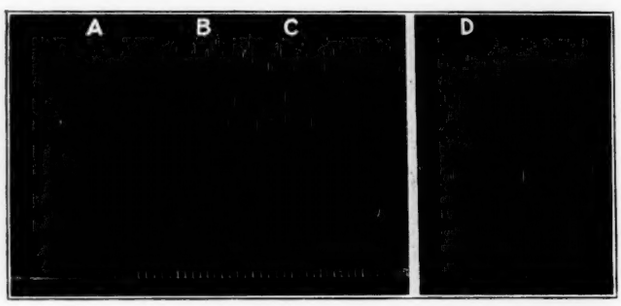

Fig. 3.—Tracing showing the effect of alcohol on general blood-pressure when administered by gastric fistula to the unanesthetized animal: A, normal; B, administration; C, immediately following, and D, eighteen minutes after administration.

Another method consisted in the isolation and preparation of the artery and closing the wound, leaving about 3 inches of the artery brought up close under the skin. After recovery from the anesthetic an ordinary glass three-way cannula was inserted without any anesthetic, although cocain may be used locally if desired.

The third method involved the use of a trocar cannula. Bardier[12] has invented a trocar cannula, but his instrument is not suitable for use on the intact animal. My trocar cannula (Fig. 2) is made of steel and consists of a fine, short, hollow needle arranged with an inner needle or obturator. This obturator has a capillary lengthwise hole running from its point back to the other end. This trocar is attached by a rubber tube to the manometer and pressure bottle as in ordinary blood-pressure tracings. In taking an observation the trocar, with the obturator in place, is thrust quickly into the lumen of the artery. The operator can tell when the point of the trocar is within the vessel by the blood dripping from the capillary hole from the free end of the obturator. When all is ready the obturator is entirely withdrawn and the blood-pressure tracing taken in the usual way on a kymograph. With this cannula, if the narrowness of the needle necessary to use causes clotting to occur, one can withdraw the trocar and remove the clot.

On several successive days I succeeded in taking the manometric blood-pressure tracings. There was no clotting the next day, unless, of course, the arteries were roughly handled or stretched. Sometimes, even in that case, it was possible to remove the clot and secure a successful tracing.

RESULTS

In the application of these blood-pressure methods to the study of alcohol, three different modes of administration were adopted. The first mode was to introduce the alcohol directly into the stomach through a gastric fistula. This fistula was made (under anesthesia) by inserting a piece of small rubber tubing through the abdominal wall into the cavity of the stomach, sewing it in position, and allowing time for it to heal. In general, no distinct increase in blood-pressure or heart-rate followed the administration of alcohol in this manner, even when large doses of 50 or 60 per cent. alcohol were used; there was no apparent reflex stimulation of the heart or vasomotors. But after about fifteen minutes there began a very gradual decrease in blood-pressure, with decreased amplitude and increased rate in heart-beat (Fig. 3). This continued progressively for an hour or more, after which time the animal, when placed on the floor, staggered and rolled, being deeply intoxicated.

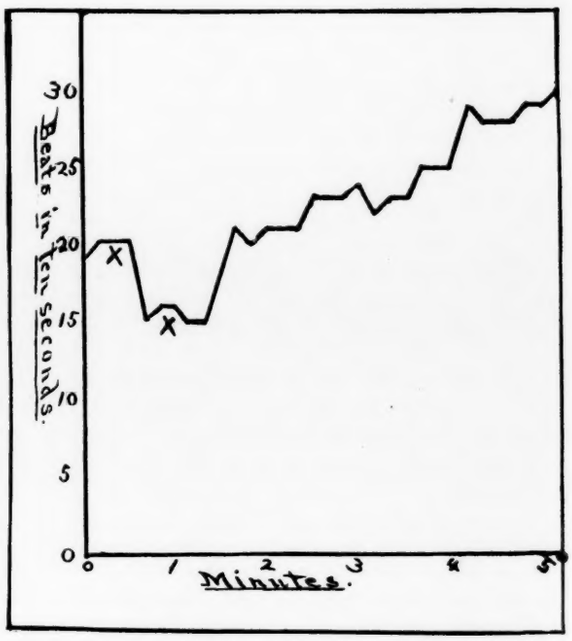

Fig. 4.—Curve showing the effect of intravenous injection of alcohol on the heart-rate of an unanesthetized dog. Between the two crosses, 10 c.c. of 25 per cent. alcohol injected slowly into ear vein.

The second mode of administration was to inject the alcohol with a hypodermic syringe directly into an ear vein or into a saphenous vein. Although various doses of different dilutions of alcohol were thus administered, yet in no case was there observed any distinct rise in blood-pressure. If the dose was large enough to show a distinct action, the result was a decrease in blood-pressure followed by rapid recovery. If a still larger dose was administered there was a prompt, sharp drop in blood-pressure with the heart greatly slowed or almost completely stopped; but this was promptly followed by

11. Brooks, Clyde: Heart, July, 1910, ii.
12. Bardier, C.: Nouveau modèle de canule à pression artérielle, Compt. rend. séances Soc. de biol., 1897, xlix, 1025.

rapid recovery, if the dose was not too large (Fig. 4). After this there ensued the same gradual, progressive decrease in blood-pressure with decreased amplitude and increased rate of heart-beat described above.

The third mode of administration consisted in pouring the alcohol into the mouth of the dog through a rubber tube introduced into one buccal cavity. When alcohol was administered in this way, there followed a sharp rise in blood-pressure with greatly increased amplitude of beat, while the rate remained almost constant or sometimes was slightly slowed. This rise gradually passed off in five or ten minutes, after which there came on the same gradual, progressive changes described above following alcohol by the other two modes of administration. But, in some instances, the very first effect was a quick drop in blood-pressure showing a tracing very similar to that of a vagus stimulation; this drop appeared to occur just when the dog gulped or gagged at the sudden introduction of the alcohol. Almost at once the pressure quickly rose again and passed on up above the normal giving the rise just described, which occurred in every case when alcohol was administered by mouth (Fig. 5).

SUMMARY

This report concerns a series of manometric blood-pressure tracings showing the effect of alcohol on an animal not under the influence of any anesthetic. The alcohol was administered by three different modes, namely, by mouth, by intravenous injection, and by gastric fistula.

The primary action of alcohol varies according to the mode of administration: By mouth it causes a marked rise in blood-pressure with increased amplitude and a constant, or slightly slowed rhythm of heart-beat. This rise gradually passes off in five or ten minutes. In some instances, at the time of pouring the alcohol into the dog's throat and just preceding the rise mentioned, there is a sudden drop and almost immediate recovery of blood-pressure. When administered intravenously, alcohol causes a sharp drop in blood-pressure during which the heart is greatly slowed or almost stopped; but very soon, unless the dose is too large, there follows a rapid recovery. By gastric fistula there is no specific primary action.

By whatever method administered, alcohol, when circulating in the blood-stream, causes a gradual, progressive lowering of blood-pressure with decrease in amplitude but increase in rate of heart-beat. This I regard as the true pharmacologic action of alcohol on the blood-pressure of the intact unanesthetized animal.

Fig. 5.—Tracing showing the primary effect of alcohol on the general blood-pressure when administered to the normal unanesthetized animal by mouth. At X 10 c.c. 50 per cent. alcohol swallowed.

It is a pleasure to express my thanks to Prof. Samuel A. Matthews for his counsel, criticism, and assistance throughout the progress of the work.

REPORT OF THE COMMITTEE ON COLLECTIVE INVESTIGATION CONCERNING THE OCULAR MUSCLES *

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Last year this Committee made only a preliminary report, the substance of which was that considering the clinical importance of the subject, the confusion of our data concerning it, and the necessity of a thorough acquaintance with anatomy and physiology as a basis of clinical work, it was deemed advisable to devote at least a year or two to questions which still remain unsolved concerning the anatomy and physiology of the ocular muscles.

We agreed to call a pair of eyes normal when the vision of each was = 6/6 or better, when the manifest ametropia did not exceed 0.75, and the owners of the eyes never had suffered from any asthenopic symptoms. In asking for studies on the muscles of such eyes, we were careful to avoid theories, to ask only for demonstrations which could be seen or photographed if desired, or for results which could be expressed in figures.

The first step was to arrange these questions into groups, each one having divisions and subdivisions, for different members or groups of members, of the Section. Moreover, it seemed desirable, when possible, to have the results verified or corrected by one or two working independently.

It was easy enough to decide on this general plan, the advantages of which were self-evident; but it proved quite a different matter, as was expected, to find proper men ready to engage in what was practically laboratory experiment. At the outset, over eighty members of the Section expressed a willingness to join in the study of the muscles. In the preliminary report last year it was predicted that this number would be much reduced, when careful investigating demanded time and patience of men already deep in clinical work. That prophecy has been gradually fulfilled.

Although the number now engaged in the inquiry has been reduced to less than twenty, the central Committee is still firm in its conviction of the necessity of first settling certain moot points of anatomy and physiology of the ocular muscles in order to agree, so far as possible, on definitions and methods, before attempting to study any abnormal conditions. Besides reporting thus the number now interested in this subject, reference should be made to the fact that they were selected, as far as possible, from among the more progressive or from the younger men. There are, however, differences in their apparent qualifications. Some men have been well known as careful observers; although also busy with large private or hospital practice they have so systematized their days as to find leisure for exact investigation. Others are young, or are strangers to our Section. They are all welcome; only it should be understood that the central Committee cannot hold itself responsible for results given by individuals.

In a report of this kind the Committee can only summarize briefly the findings which have been communicated to them, adding any new evidence which may be available.

In presenting this report it seems advisable to begin with questions of anatomy, and to pass from the simpler to the more complicated problems of the physiology of the muscles.

THE CHECK LIGAMENTS

A subject of much interest to the anatomist and of importance clinically, is the extent and character of the so-called check ligaments.

Even the earlier anatomists saw, from the margins of the orbit, a sort of curtain of connective tissue (the septum

* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

orbitale) extending toward the globe. Or as the globe projected partly through this curtain near its center, the connective tissue which passed from the edges of the orbit toward the globe was particularly firm and thick over the insertions of the four recti muscles. These thickened portions, as we know, have been re-described of late years under the name of "the check ligaments" (Fig. 1). The fibers of connective tissue extending over the flat surfaces of the muscles and from their edges have been called "the secondary insertions."

Now, although each of these thickened portions of the connective tissue curtain starts from the orbital edge, it does not always have clearly defined limits when extending toward the

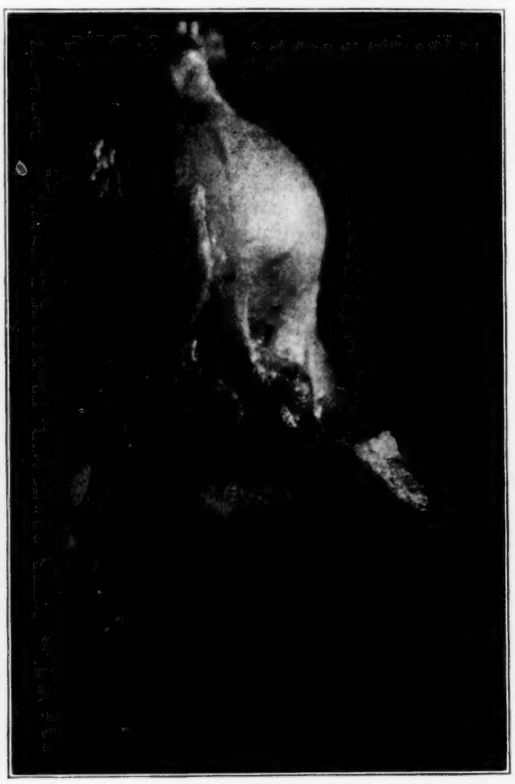

Fig. 1.—Septum orbitale stretched by drawing globe upward. Dissection by Dr. Lucien Howe.

outer sheath of the four recti muscles, especially not where it merges gradually into the thinner regions or interspaces of this septum orbitale. The different limits, or the form and function thus assigned by different anatomists to these bands, have confused our ideas and given rise to contradictory theories for operative procedure.

Several dissections made by Dr. A. C. Durand, instructor in anatomy at Cornell University, Ithaca, N. Y., and by Dr. Lucien Howe of Buffalo, together with some photographs of dissections, are submitted to the Section with this report. A detailed description of these preparations might form a short monograph and may be published later.

From these dissections we may conclude:

(*a*) We should limit the term "check ligament" to that thickened portion of the septum orbitale which extends from the orbit to the globe, which is about as wide as the muscle which lies beneath it, and which is limited anteriorly by the conjunctiva and posteriorly by the connective tissue fibers covering the muscle and adjacent orbital tissue.

(*b*) The check ligaments, especially those over the lateral recti, do distinctly check abnormal action of the corresponding muscles. They do not check, however, any of the physiologic motions of the globe.

INSERTION OF RECTI MUSCLES

A second anatomic question concerning which we need corroborative evidence is the nature of the insertion of the recti muscles into the globe.

The earlier anatomists, and many of the text-books, still describe these muscles as attached to the globe by a single ordinary tendon. But more than thirty years ago Merkel and Kallius showed that as these muscles approach the globe their tendons give off fibrous bands at each edge, and also from the orbital and ocular surfaces of the tendon. These supporting fibers at the edges of the muscles, Merkel called the *adminiculum tendinis*, or more recently these connective tissue fibers have been called the "secondary insertions" of the muscles into the globe. The presence and importance of these were shown in an extensive monograph on the subject by Hans Virchow, and in the first volume of a work on the muscles by the chairman of this Committee photographs and more detailed description were given of these secondary insertions. Such evidence left no doubt as to their existence, but as the number of dissections so far made was small, and as the relation of these secondary insertions to operations for tenotomy is evidently so important, it seemed desirable to obtain additional evidence as to the variations which might occur among them. The dissections presented herewith by Drs. Durand and Howe, together with stained sections of the globe and of the muscles, and also the photographs (Figs. 2, 3 and 4) show not only the existence of these secondary insertions, but indicate their evident importance in any operation for tenotomy. Their clinical importance has been tacitly recognized by every one. In making a tenotomy, for example, of the internal rectus, it happens frequently that after the tendon only has been entirely divided, if the eye is cleaned and the patient is asked to look at a distant

Fig. 2.—Capsule of Tenon and ocular muscles; posterior view. A, superior rectus; B, external rectus; C, inferior rectus; B', internal rectus; D, superior oblique; E, levator palpebrae; F, fold of capsule between A and B. Dissection by Dr. A. C. Durand.

object, the globe seems to remain in the same position as it was before the operation, being still held by the undivided secondary fibers. But if the surgeon then extends the incision only a few millimeters further, dividing thus the secondary insertions, or even separates them with a hook, a "complete" tenotomy is thus made, and the globe swings outward, perhaps even further than desired. It is evident, therefore, that we should obtain as many data as possible concerning these secondary insertions, not only in the normal condition, but later in connection with the pathologic anatomy of heterotropia.

THE OPHTHALMIC GANGLION

A third anatomic point to which attention has been directed was the ophthalmic ganglion. As the number of afferent and efferent branches are variously described and figured in different anatomies, and as this ganglion undoubtedly bears an important relation to accommodation, it seemed desirable to begin at least to classify our knowledge concerning it. Therefore a series of dissections of this ganglion has been made during the past year by Drs. C. E. G. Shannon and John F. Little of Philadelphia, and also one dissection by Dr. A. C. Durand of Ithaca, N. Y. These specimens are also submitted, and a photograph by the latter (Fig. 5). But it is necessary to state that as yet no definite conclusions can be reached concerning the number and arrangement of the branches which go to or from the ganglion. Much less is it possible to make a statement concerning their function.

One or two other studies of the anatomy of the muscles have been commenced, but they are not yet ready for even a preliminary demonstration.

Passing from the anatomy to the physiology of the muscles, it seemed to the central Committee that inasmuch as most functions of the extraocular muscles are dependent on the condition of the intraocular muscles—on what we may call in general the ciliary muscle—it was advisable to study that first.

POWER OF ACCOMMODATION WITH PARALLEL VISUAL AXES

One of the first questions presented related to the power of accommodation with parallel visual axes. Although Donders,

Fig. 3.—Ocular surface of the internal rectus muscle, showing the connective tissue fibers which form the ocular secondary insertion. Dissection by Dr. Lucien Howe.

Landolt, Hess and others have already described the curves or lines which represent graphically the positive and negative parts of relative accommodation, we have comparatively few data as to the strength of the accommodation when the visual axes are in the primary position. This can be ascertained, of course, by successive trials, until the strongest minus glasses are found which can be overcome, the vision still remaining equal to 6/6.

We have long known, in a general way, that most emmetropes could overcome in this way a pair of —3. diopter glasses. That is to say, we have considered that the latent accommodation with parallel visual axes was equal to about three diopters.

But only during the last few years has any statement been made as to the gradual decrease which takes place in the power of accommodation in normal eyes as age advances.

In order to determine this, Dr. H. W. Cowper, now of Buffalo, N. Y., formerly assistant surgeon in the U. S. Army, made tests of the eyes of twenty-two soldiers of the Twenty-ninth Infantry then stationed at Fort Porter. These men were of rather unusually strong and athletic types. In none did the hypermetropia exceed 0.75, but the ages varied from 21 to 38.[1]

Fig. 4.—The median (nasal) surface of the internal rectus. The connective tissue fibers forming the median secondary insertions of these muscles are here lifted on the forceps. Dissection by Dr. Lucien Howe.

The results in this small number seem to show that from 21 to 25 years of age we can usually count on about 3.5 diopters of accommodation which can be exerted when the visual axes are in the primary position. But this amount of accommodation gradually decreases with the increase in years, as might naturally be expected.

This observation on even a few subjects is more far-reaching than might at first appear. Clinicians agree generally that one of the most important and also one of the most difficult questions to be solved in the treatment of ametropia is whether the power of accommodation in a given individual is normal, whether it is excessive (spasm of accommodation), or whether that power is insufficient (paresis of accommodation). It assists us greatly, therefore, to know that in early life—up to 20 or 25—an emmetrope should overcome minus glasses of about 3.50 diopters. This corroborates some statements which have been published within the past few years, and so far as it goes furnishes further physiologic basis for clinical work.

ACTION OF CYCLOPLEGICS

Another fundamental question in connection with the power of accommodation is to what extent we can agree concerning the action of cycloplegics and myotics which are in constant use clinically. This is evidently nothing more than the critical

1. Acknowledgment should here be made to Capt. W. R. Davis, assistant surgeon U. S. A., now at Fort Porter, Buffalo. Capt. Davis rendered valuable assistance to members of the subcommittee, by interesting soldiers to give time to tests of the condition of their refraction, muscle balance, power of accommodation, of torsion, and of other conditions of normal eyes.

examination of some of the tools with which our work is done. Comparatively few studies have been made of the action of drugs on the ciliary muscles. Perhaps the most recent and complete are those given by Lewin and Guillary in their classic "Die Wirkungen von Arzneimitteln und Giften auf das Auge." In that we have a verification of former observations concerning the action of atropin and homatropin, and several other cycloplegics and myotics.

But still there were desiderata in the form of corroborative observations on moot points. Especially it was desirable to ascertain the different effects, if any, of different doses of the same drug. In doing this, it was evident that the usual method of instilling drops into the conjunctival sac was inexact, for the reason that solutions easily deteriorate, that drops are of unequal size, and the amount which remains on the conjunctiva varies greatly. Therefore for the experiments, our committee sent out previously tested discs, and a description of the method to be followed, with the test types to be used—in other words, the plan adopted was as nearly uniform as possible. In order to make sure that the discs used contained practically the amount of the drug stated by the manufacturers, analyses were first made of all except one lot of the discs distributed. For the care taken in making these analyses, or in having them made, acknowledgment and the thanks of the committee should here be expressed to Dr. H. C. Wood, Jr., of Philadelphia, and Dr. H. L. Begle of Detroit, Mich. It was gratifying to know that the discs manufactured by at least three of the largest firms do contain apparently the percentage of the different drugs as marked on the packages which were purchased by the committee, in open market. It should be added that care was taken not to prejudice the mind of any observer. The name was given of the discs sent, but not of the strength.

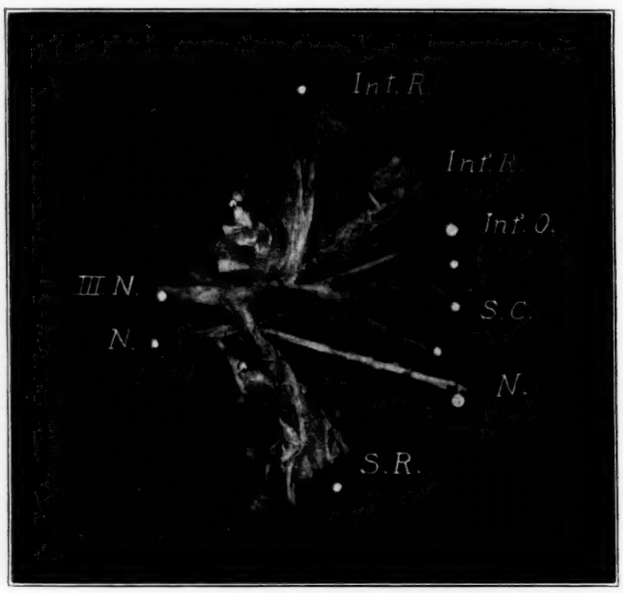

Fig. 5.—View of the ciliary ganglion. External rectus covered with black paper. Dissection by Dr. A. C. Durand.

The results of these studies of the action of different drugs can be referred to in this report only with the utmost brevity. It should be repeated, however, that each observer is at liberty to publish his own results elsewhere, if desired, and some members will undoubtedly do this. The results are arranged as follows:

Cocain.—Although we use this substance so constantly, and although it is ordinarily regarded simply as a mydriatic, exact measurements seem to show that it also produces a slight but real effect on the accommodation. This is indicated by the experiments made by Drs. F. W. Marlow of Syracuse, N. Y., G. A. Sulzer of Columbus, Ohio, and H. H. Martin of Savannah, Ga. They each used tablets containing 1/25 grain (0.0026 gram). Dr. Marlow found the following results:

(a) In a man of 26, after 10 minutes the accommodation had begun to relax; it reached 3 diopters after 50 minutes, continued so for 70 minutes, and the effects then gradually disappeared. Meanwhile, the pupil had dilated from 3 to 7 millimeters after 20 minutes. The pupil then gradually contracted, and at the end of 110 minutes had almost regained its original size.

(b) In a man of 25 the same amount of cocain produced 1 1/2 diopter of relaxation after 50 minutes. The subject was able to overcome the relaxation only in part when he made special effort, and the cycloplegic effect had disappeared after an hour. Meanwhile the pupil had enlarged from 3.5 to 6 millimeters after 50 minutes, and remained large the rest of the day.

(c) In another man of 24 there was a relaxation of accommodation of 1 1/2 diopters after 60 minutes, with a return to the original condition after 90 minutes. Meanwhile the pupil, after 25 minutes, had dilated from 3 to 7 millimeters, and remained 5.5 millimeters in diameter after 110 minutes.

(d) In a boy of 18, 20 minutes after the application the accommodation had relaxed 2 diopters. It remained at practically that point for about 90 minutes, and then gradually reached the original condition. Meanwhile, after 20 minutes the pupil had dilated from 3 to 6 millimeters, and continued at almost that point after 120 minutes.

Dr. Sulzer found:

(a) In a girl of 17, half an hour after the application the accommodation was relaxed 1 1/2 diopters. That continued for about 30 minutes. At the end of 70 minutes the accommodation had returned to the original condition.

(b) In a woman of 25, at the end of 25 minutes a relaxation of 4 diopters occurred. This gradually decreased, until it had entirely disappeared at the end of 70 minutes. In both cases the changes in the pupil accorded practically with the changes in the accommodation.

Dr. Martin found, in a subject of 18 years, that within 30 minutes the accommodation had relaxed 2 diopters, and continued at that point for 140 minutes. Meanwhile the pupil dilated from 2 to 4 millimeters, and continued that size during that time.

These experiments seem to warrant the space here devoted to them. For they indicate that in spite of the general opinion to the contrary, this drug has a real cycloplegic, as well as its well-known mydriatic action. Of course, this cycloplegic action must be taken into account whenever tests of the refraction are made after its use. Moreover, attention should be called, incidentally, to the important fact that cocain is contraindicated when there is any tendency to increased tension.

Homatropin.—Although we are all accustomed to use this drug so constantly, few accurate observations have so far been made concerning its effect. Fortunately, one member of the Section, Dr. R. L. Crockett of Oneida, N. Y., has taken considerable interest in this question, and sent to the committee the curves produced by his application of 1/50 grain (0.0013 gram) of homatropin to one eye of 4 individuals, and to both eyes of 3 other individuals, making 10 observations altogether. These apparently have been worked out with much exactness. Without going into details, it may be said that this amount of homatropin produced an effect on the accommodation not unlike that of atropin. This effect was not apparent, except in one individual, within the first 10 minutes after the application, but at the end of 15 minutes the accommodation had begun to relax decidedly, and this continued in an almost constant ratio until the end of 35 minutes. In most of the cases there remained at that time only about 1 or 1 1/2 diopter of accommodation available, and by the end of from 45 to 50 minutes complete cycloplegia resulted. Unfortunately, no data were given as to the rapidity with which the effect disappeared, and it still remains for some one to establish that curve. The practical fact is that the evidence thus far at our command seems to indicate that a disc of homatropin of that strength is sufficient for all practical purposes unless some spasm of accommodation is present.

Eserin.—Through the careful observations of Donders, we have long known the effect of a moderate dose of calabar bean on the ciliary muscle. But as the pathologic conditions which we recognize as insufficient accommodation and as excessive accommodation are recognized in part by the behavior of the

ciliary muscle after the application of a given quantity of eserin to the conjunctiva, it seemed desirable to ascertain whether a relatively large or a small amount of this drug produced curves which differed materially from the curves given by Donders.

For this purpose, Dr. H. H. Martin of Savannah applied eserin in varying strengths to the eyes of a young man of 18. Without giving the details of these observations it would seem that the effect of the 1/1000 of a grain was more marked than the one of 1/2000, and both of these in turn were more marked and lasted a longer time than did the 1/10000 of a grain. The bearing of this, as already stated, is probably of some importance in connection with the diagnosis of insufficient or excessive accommodation.

NORMAL POSITION OF VISUAL AXES

Passing from the ciliary muscle and the effect of drugs on it to the extraocular muscles, it seemed desirable to our Committee to obtain a few more data concerning the normal position of the visual axes when a pair of eyes is at rest and fixed on a distant object directly in front and in the horizontal plane. This is, of course, a re-examination of the measurements made by Bannister on soldiers, and later by the chairman of this committee on soldiers alone, or by him with Dr. C. H. Williams of Boston on other normal eyes. Accordingly a plan was suggested by the Committee in which the tests would be as nearly uniform as possible.

We have reports on this point from Dr. M. V. Ball of Warren, Pa., who examined 38 pairs of normal eyes; from Dr. H. W. Cowper of Buffalo, who examined 22, from Dr. H. C. Parker of Indianapolis, who examined 13, and from Dr. Oscar Wilkinson of Washington, D. C., who examined 4. The details of these examinations would furnish data for a long paper, and are well worthy of publication. It is especially interesting to observe that certain forms of heterophoria can exist in normal eyes in quite a high degree without giving rise to headaches or other symptoms. But, on the other hand, it would seem that when the muscular tone of the individual, as shown by several tests, is sufficient to overcome the heterophoria, then the complaints of the individual are apparently proportionately lessened. Here it is impossible to refer to such details; we can only state briefly that while orthophoria is found to exist in a decided majority of cases (55 per cent. of normal eyes) a well-marked esotropia is often present (32 per cent.), and occasionally exophoria (4 per cent.). The vertical phorias are by no means uncommon (7 per cent.) either alone or combined with some forms of the lateral phorias.

MINIMUM AND MAXIMUM DUCTION, ESPECIALLY OF THE LATERAL MUSCLES

This means the results obtained by use of prisms according to different methods.

It was found some time ago that in testing for diplopia, if we begin with prisms strong enough to produce the double images and pass from these strong prisms to those which are weaker, and allow a certain time to elapse between the application of one prism and the next, or if we select prisms from the case, or use prisms in series which also necessitate each time a distinct change in the muscular adjustments, we reach a certain point in the strength of the prism just sufficient to produce the double vision. The limit obtained by this method has been called "minimum duction." For adduction, it has been found by such tests to be about 6 or 8 degrees, and for abduction from about 4 to 6 degrees. These results in normal eyes seem to be fairly constant.

On the contrary, if we begin with prisms which are not strong enough to produce double vision, and pass gradually to stronger prisms, *not* allowing a certain time to elapse between the application of one prism and the next (as can be done best if we use the revolving prism of Crété or of Risley), it has been found that the results obtained by this method are quite different from those obtained by the other method. This result has been called the "maximum duction." Thus adduction can often be carried up slowly with the revolving prism to 10, 15 degrees or more, and abduction to 8, 10 degrees or more. It is by no means so constant as the minimum duction, varying considerably not only in different individuals, but in the same individual at different times.

Until recently, the possibility of obtaining different results by using different methods was quite overlooked, and the consequence was that the utmost confusion prevailed in methods, and therefore in results.

But at the meeting of this Section in 1906 a resolution was adopted by which we agreed when testing to pass from stronger to weaker prisms—that is, to obtain the minimum duction, or if not thus tested to state the method used. During the past year, several studies have been made to verify or disprove the necessity of this action by the Section. These studies were made by Dr. Frank A. Morrison of Indianapolis, Ind. (26 persons), by Dr. J. W. Scales of Pine Bluff, Ark. (5 persons), and by Drs. H. C. Cowper and F. J. Barrett of Buffalo, N. Y. together, 22 persons. The results of these examinations, like those of the preceding groups, are well worthy of special consideration. Doubtless some of the details of this group of examinations will be published separately. In this report, however, it is only possible to make a brief statement.

(*a*) When we make tests with prisms, beginning with those which are strong enough to produce diplopia and reduce the strength gradually, we find almost invariably that the resulting minimum duction is less than when we begin with weak prisms and pass gradually to those which are stronger.

(*b*) If we gradually increase the strength of the prism, thus exercising a certain group of muscles in a pair of normal eyes, it is almost always possible to educate, as it were, that group of muscles to overcome those prisms. This indicates, so far as such limited data can, that so-called "latent" convergence, divergence, etc., are not always pathologic conditions, if they are at all, but are rather the results of increased strength produced by the exercise with prisms.

The committee desires to call special attention to the fact that several other studies of the physiology of the muscles have been made, but that it is impossible to make any reference to them at present. This is because some of the communications are too incomplete, or because they deal rather with theories than with "demonstrations which can be seen and photographed if desired or with results of measurements which can be expressed in figures." Moreover, a portion of the data must be reserved for another year simply for lack of space, as this report is already much longer than the committee considers usually desirable.

SUMMARY OF THESE OBSERVATIONS

The results obtained by this study of the anatomy and physiology of the ocular muscles can be summarized briefly as follows. We have:

First.—Corroborative evidence concerning the check ligaments, sufficient to warrant a definition of their extent.

Second.—Corroborative evidence of the existence and extent of the secondary insertions of the ocular muscles. All will probably now agree as to their clinical importance.

Third.—A few more exact dissections of the ciliary ganglion.

Passing next to physiology we have:

Fourth.—Corroborative evidence as to the power of accommodation with parallel visual axes.

Fifth.—New curves of the effects of cocain, showing the important fact that it has a cycloplegic action.

Sixth.—A curve for the action of homatropin, 1/50 of a grain.

Seventh.—Curves indicating that various strengths of eserin produce varying curves, showing its effect on the accommodation.

Eighth.—Corroborative evidence that orthophoria for the far point exists only in a small majority of cases.

Ninth.—There is a difference between minimum and maximum duction, the former being quite constant, the latter not ordinarily constant.

Although these data are not numerous they indicate that perhaps a little has been done to give us rather more exact definitions concerning one or two essential points. They also add a few corroborative facts as to some points about which we needed additional light.

RECOMMENDATIONS OF THE COMMITTEE

For next year the recommendations of this committee are as follows:

1. The studies of the anatomy and physiology of the muscles already begun should be continued.

2. If other members of the Section become interested in these questions of anatomy or physiology, their cooperation should be enlisted.

3. As a large number of members of our Section who originally signified their willingness to cooperate in this work temporarily withdrew from it because they could devote themselves only to questions of pathology, as we are now ready to begin with the more fundamental problems of that kind, and as anomalies of accommodation often exert an important influence on the extraocular muscles, especially those involved in convergence, this committee would also recommend that members of the Section who care to study the muscles should turn their attention during the next year to pathologic conditions of the ciliary muscle.

In doing this the principal points would be to ascertain:

A. What are the most reliable methods for measuring the degree of excessive accommodation (spasm)?

(*a*) Is there present actual excessive accommodation—that is, excessive accommodation in eyes with practically normal refraction? Or

(*b*) Relative excessive accommodation—that is, a normal accommodation with abnormal refraction, especially myopia and myopic astigmatism, or some degree of hypermetropia or hypermetropic astigmatism?

(*c*) What curve represents the range of accommodation when this range is plotted on a system of coordinates?

(*d*) How is this curve changed by a weak dose of atropin, for example, 0.00001 gram (1/5000 grain)?

(*h*) What are the subjective symptoms—especially, is the headache frontal, in the vertex, in the occiput, or does the pain extend to the shoulders?

(*i*) What other or better methods are there for measuring excessive accommodation, or what other symptoms are there to indicate its presence?

(*e*) How is this curve changed by a weak solution of eserin, for example, 0.00001 gram?

(*f*) What is the static and dynamic condition of the extraocular muscles, and especially what curve or line represents the relative convergence in each such case?

(*g*) Are there any characteristic vertical or horizontal wrinkles present in the forehead of the individual?

B. What are the most reliable methods for measuring the degree of insufficient accommodation (paresis)?

(*a*) Is there present actual insufficient accommodation—that is, insufficient accommodation in eyes with practically normal refraction? Or

(*b*) Relative insufficient accommodation—that is, normal accommodation with abnormal refraction, especially hypermetropia or hypermetropic astigmatism, or some degree of myopia or myopic astigmatism.

(Also give the remaining aspects of the condition, as above, for excessive accommodation.)

C. The committee would also recommend that any member of this Section who cares to join in this part of the study give his address to the Chairman. Blanks would be sent on which the desired data could be properly entered, or, if members request it, suggestions will be made as to the bibliography of the different phases of the subject.

ABSTRACT OF DISCUSSION

DR. G. C. SAVAGE, Nashville: The report contains this statement in regard to duction: "For adduction, it has been found by such tests to be about 6 or 8 degrees, and for abduction from about 4 to 6 degrees. These results in normal eyes seem to be fairly constant." I want to call attention to the fact that this is very much lower than the records made by any of the observers who have written on the subject, even a long time ago, and very much lower than would be justified by the results of many of us who have tested the duction power of these muscles. I understand that these figures have been reached by commencing with a very strong prism and coming down to a weaker one. If the result of that sort of investigation is to leave the understanding that adduction is so low and the difference between adduction and abduction so little, my judgment is that it would be misleading. If that plan has been resorted to for one year, why not resort to the other plan and begin with weak prisms and go up and see where we stand? My judgment is that the figures given are lower than the tests would justify if proper means are used. Of course, I can readily understand that the means used by these investigators brought this result.

DR. LUCIEN HOWE, Buffalo: We are very glad to have suggestions of any kind. The committee has no theories. It seeks only the facts.

THE OCULAR PALSIES ASSOCIATED WITH THE INDUCTION OF SPINAL ANESTHESIA BY VARIOUS SOLUTIONS

WITH A REPORT OF FIVE CASES *

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Surgical anesthesia produced by lumbar puncture and injection of various local anesthetics (so-called spinal or lumbar anesthesia) is now not only a well-accredited procedure, but one of daily performance in many of the hospitals in the United States. Bier,[1] O. Fürster,[2] and Jonnesco,[3] in Europe, and Wayne Babcock,[4] in this country, as well as many other writers, have pointed out the advantages and contraindications for the procedure. All these authors have alluded to some form of ocular palsy as one of the rare complications of this method of surgical anesthesia. I have, therefore, thought it wise to place on record five instances of such complications and to assemble such other recorded instances as have appeared in the literature.

There have been 2,000 lumbar anesthesias induced at the Samaritan Hospital in Philadelphia. Of this number, about 1,400 patients were anesthetized in the service of Dr. W. Wayne Babcock, surgeon to the hospital. About 400 were anesthetized in the service of Dr. William A. Steel, genito-urinary surgeon to the hospital, and 100 more in the service of Dr. Collier Martin, proctologist to the hospital, and Dr. J. C. Applegate, obstetrician to the hospital. Four of the reported cases of resulting palsy occurred in the department of general surgery and one in the department of proctology. This would make a proportion of one in 400 cases. Ach[5] observed four instances of ocular palsy in 400 instances of lumbar anesthesia, a proportion of exactly 1 in 100.

The five cases to be reported follow. They all occurred in the wards of the Samaritan Hospital:

CASE 1.—B. A., male, aged 42, admitted to the surgical ward of the Samaritan Hospital, May 15, 1908, for an operation for hemorrhoids, was a Russian Jew in good general health. The anesthesia and operation were without incident. Twelve days

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Bier: Ueber den jetzigen Stand der Rückenmarks Anesthesie, Verhandl. d. deutsch. Gesellsch. f. Chir., 1905.
2. Fürster, O.: Erfahrungen über Spinalanalgesie, Beitr. zur klinische Chirurgie, xlvi.
3. Jonnesco: Am. Jour. Surg., 1910.
4. Babcock, W.: Med. Jour., August, 1909.
5. Ach: München. med. Wchnschr., 1907, No. 13.

after the operation the patient was referred to the ophthalmic out-patient department because of double vision. On examination it was found that the two external recti were involved about equally. Rotation 15 degrees from the median line either to the right or left produced homonymous diplopia. The eyes were otherwise normal anteriorly and the eyegrounds presented no anomalies whatever. The history was negative as to syphilis or any dyscrasia that might give rise to the palsy. Blood-pressure was found normal. The patient was treated with pilocarpin sweats and biniodid of mercury but there was only slight amelioration in the symptoms. He finally recovered so that he could carry either eye 25 degrees from the median line without seeing double. At this juncture he went to his home and has been entirely lost sight of. The palsy, which appeared twelve days after the spinal anesthesia, lasted at least four weeks and in all probability from six to eight weeks longer, judging from the slow progress made during the four weeks the patient remained under observation.

CASE 2.—J. E., a girl, aged 16, had received spinal anesthesia (6.5 cgm. of stovain solution), for appendectomy, July 26, 1909. October 28 she was referred to the out-patient department of the Samaritan Hospital because of headache, vertigo, and double vision. The latter symptoms she claimed to have suffered from for only four weeks, so that, according to her statement, the palsy did not appear until eight weeks after the operation, which is at least four weeks longer than any other case which I have found in the literature. She was found to have vision of 5/7 in the right eye and 5/9 in the left eye; the eyegrounds were normal in every way. There were no stigmata of hysteria that could be elicited. Both external recti were involved as in the previous case, the diplopia beginning about 10° temporalward from the median line. In view of the fact that the palsy seemed undoubtedly due to the spinal anesthetization alone, it was decided in this case to allow Nature to take its course. The object was, of course, to observe whether spontaneous resolution would occur and how long it would take. One month later the diplopia was not in evidence except at the extreme temporal periphery of both motor fields, but this condition still obtained 6 months after the operation.

CASE 3.—X. Y., male, aged 24, had received spinal anesthesia (6.5 cgm. of stovain in solution) for appendectomy. On the seventh day the patient began to complain of blurred vision and it was found that diplopia was present, the left exterus being involved. The patient attributed his disturbance of vision to the fact that he had been reading almost all day during his convalescence. The palsy lasted about one week, but the patient states that for two weeks after the double vision had practically disappeared, he could bring on temporary diplopia by reading steadily for from two to three hours. The refractive status was low myopia and myopic astigmatism being:

R. — 1.00^{s} — 50 cyl. 45° = 5/5
L. — 1.00^{s} — 50 cyl. 135° = 5/5

There was no abnormality in either eyeground. Four weeks after the operation the patient was in very good health, the ocular rotations were smooth and complete in all merdians and the muscle balance absolutely normal.

CASE 4.—A private case in the practice of Dr. W. Wayne Babcock, occurred in an apparently healthy man, 40 years of age, in whom 6.5 cgm. of a 4 per cent. solution of tropacocain dissolved in 10 per cent. alcohol was used. Again it was the externus that was involved, this time only one being affected. The palsy appeared about ten days after the spinal anesthetization, and was of two weeks' duration.

CASE 5.—Miss M. D., aged 19, operated on Feb. 19, 1910, for appendicitis, had received 7 cgm. of stovain intraspinally. The patient did very well and recovery was interrupted by no untoward incident, but on the seventh day after operation she began to complain of double vision and it was found that she had concomitant squint. The left external rectus is palsied at the present writing (five days after the first observation) and that eye cannot be carried beyond the median line. The vision equals 5/7 in the right eye and 5/9 in the left eye. The patient's refraction status is: + 1.50 sph. 1.25 cylinder, axis 90° in both eyes. The accommodative near point is 7 inches in each eye; that is to say, that there are 5.5 diopters of accommodation present as against the normal 10 diopters the patient should have at 19 years of age. This completes the picture of cyloplegia and weakening of the externi as it is so often observed during post-diphtheritic palsies.

The cases recorded in the literature may be arranged in three groups, according as they show involvement of one abducens, both abducens, or the trochlearis and oculomotor in addition to the abducens.

GROUP I: ONE ABDUCENS

Hermes[6] notes a case in which the abducens was involved.

In Deetz's case[7] one abducens became palsied thirteen days after stovainization.

Both of Rausscher's cases[8] showed but one abducens at fault after the use of scopolamin 0.06, morphin 0.08 (presumably generally) and stovain, intraspinally (dose not noted). In the one case the palsy ensued on the eighth day, in the other one on the thirteenth day. Both patients eventually recovered.

In one of the instances recorded by Loeser,[9] left abducens palsy made itself manifest twelve days after lumbar anesthesia for an operation for ovarian abscess in a 35-year-old married woman. The duration of the palsy was twelve days.

Blanluet and Caron's report,[10] concerns a 51-year-old man in whom the spinal anesthesia was induced for an operation for hemorrhoids. Seven minims of a 10 per cent. solution of stovain were used. Diplopia was first noted ten days after the operation, and there was still paresis of the left externus six weeks later at the time of the report.

One of Schmidt-Rimpler's[11] cases is peculiarly interesting in that a permanent concomitant convergent strabismus remained in the eye with the palsied muscle. The transition into concomitant squint was no doubt fostered by the presence of a very considerable hypermetropia with full visual acuity in both eyes. He puts on record another unilateral case[11] in which recovery occurred.

No such fortunate result is recorded in Adam's case[12] of a 33-year-old man on whom stovain was used for a hernia operation. Twenty days later left abducens palsy was in evidence and was quite as pronounced three months later when Adam reported the case. The final outcome is not known. He also records[13] unilateral palsies, one following the use of stovain in a 26-year-old man, the other following the use of novocain in a 27-year-old woman. Recovery ensued in both cases.

Schöler[14] has seen one case after stovain in which chloroform was later necessary to complete the operation, the right externus being involved.

Feilchenfeld,[15] too, has seen two cases of unilateral abducens palsy after stovain, one presenting palsy after four months.

In Vossius'[16] case, a 60-year-old woman (stovain), the palsy persisted after six months.

In Lang's case,[17] on the other hand, that of a 41-year-old man (novocain), recovery was prompt.

6. Hermes: Med. Klin., 1906.
7. Deetz: München. med. Wchnschr., 1906, No. 28.
8. Rausscher: München. med. Wchnschr., 1906.
9. Loeser: Med. Klin., 1906, No. 10.
10. Blanluet and Caron: Rec. d'opth., December, 1906.
11. Schmidt-Rimpler: Klin. Monatsh. f. Augenh., July, 1907.
12. Adam: München. med. Wchnschr., 1906.
13. Adam: Deutsch. med. Wchnschr., 1906.
14. Schöler: Soc. d'ophth. de Berlin, 1906.
15. Feilchenfeld: Centralbl. f. prakt. Augenh., 1906.
16. Vossius: Med. Gesellsch. Giessen, 1906.
17. Lang: Deutsch. med. Wchnschr., 1906.

Scheppens[18] observed paralysis of the left abducens after intraspinal injection of cocain. It is asserted by this author that the left abducens is the one most frequently affected.

Mühsam[19] records two cases, one in a 26-year-old man in whom 15 cgm. of novocain had been used. Palsy of the right externus ensued and disappeared twenty-one days later. The other was a 27-year-old woman in whom novocain and adrenalin were used, but chloroform had to be added, as the anesthesia was imperfect. This patient also exhibited palsy of the right externus (four days after operation), which lasted twenty-two days.

To this list should be added Cases 3, 4 and 5 reported at the beginning of this paper.

GROUP II. BILATERAL CASES

Lang[20] puts on record an instance of bilateral abducens palsy as seen in a 61-year-old man in whom lumbar anesthesia was induced with novocain and adrenalin. The palsy appeared on the right side eleven days, on the left side thirty days after operation, and persisted at the time of the report of the case some months later.

Baisch[21] also has seen a bilateral case following the intraspinal use of alypin. The diplopia was of but five days' duration.

In Goetermann's case[22] tropacocain and adrenalin were used. Eight days later palsy of both abducens was noted, and is ascribed by the reporter to some toxic influence exerted on the nucleus.

Novocain and suprarenin were used in Landow's case.[23] Chloroform also had to be added to secure complete anesthesia. The ocular condition developed seven days after operation, and was accompanied by severe cephalalgia and pain in the cervical region. Recovery eventually ensued.

Ach's four cases[24] were encountered in 400 cases of spinal anesthesia.

To these cases should be added Cases 1 and 2, reported at the beginning of this paper.

GROUP III: CASES SHOWING INVOLVEMENT OF OTHER MUSCLES THAN THE ABDUCENS

Mingazini[25] observed almost complete bilateral ophthalmoplegia externa in a youth of 16 thirteen days after spinal anesthesia for varicocele. To the oculomuscular condition was added paralysis of the velum palati, of the constrictor of the eyelids, of the muscles of mastication and finally sensitivo-sensorial hypesthesia on the left side. The muscles of the extremities were also weakened. This complexus of symptoms corresponds to pseudoparalytic myasthenia gravis, but it is also to be noted that the youth showed pronounced hereditary neurotic tendencies for more than a year before the spinal anesthesia was induced.

In Becker's case[26] there was palsy of the third nerve as well as of the abducens (incomplete unilateral ophthalmoplegia externa) eleven days after intraspinal use of 6 cgm. of stovain, the palsy being of four weeks' duration.

Loeser[9] reports the only case so far on record of palsy of the superior oblique. It occurred twelve days after novocain had been used. Six months later recovery was complete.

Analysis of the table which brings together all the cases that could be found in the literature indicates the following points to be considered:

I. The alkaloid used.

II. The dose.

III. The muscle affected.

IV. The interval between the spinal anesthesia and the appearance of the palsy.

V. The duration of the palsy and the frequency of recovery.

VI. The pathogenesis of the condition.

VII. The frequency with which the surgeon may expect it to occur as a complication.

I. THE ALKALOID USED

A glance at the table will show that nearly every local anesthetic has been employed, stovain leading the list. In the order of frequency of use in this series they are as follows: stovain twenty-one times, novocain six times, tropacocain three times and cocain and alypin each once. In four cases it is not known what anesthetic was used. W. Wayne Babcock, in a private communication, informs me that he has also used eucain and cocain lactate. While some of the continental surgeons have claimed a certain selective affinity of some one of the agents named for certain of the nuclei governing the ocular muscles, there is nothing in the facts to support the contention.

II. THE DOSE EMPLOYED

Unfortunately this factor has not been sufficiently often set down in the literature to make it as yet of much value. Judging from the few instances in which the dose is stated, it would seem that continental surgeons are rather given to doses ranging from 10 to 15 cgm., while American surgeons lean toward smaller dosage, 5 to 7 cgm. being the amount usually introduced into the spinal canal. This may have something to do with the seemingly slighter frequency of ocular palsies as a complication of spinal analgesia as seen in this country; but this point will be alluded to later on.

III. THE MUSCLE OR MUSCLES INVOLVED

It is a noteworthy fact that of the thirty-six cases that have been brought together thirty-three showed involvement of the external recti alone. Two exhibited incomplete ophthalmoplegia externa and one presented fourth-nerve palsy.

IV. THE INTERVAL BETWEEN THE PRODUCTION OF THE SPINAL ANALGESIA AND THE ONSET OF THE PALSY

In the twenty-seven cases in which the time of onset of the palsy is noted, the average time of onset was ten days after the spinal analgesia was induced. In two cases the interval was but four days (Mühsam, novocain-analgesia, and Ach, stovain-analgesia) and in another five days (Loeser, novocain-analgesia) and in another six days (Vossius—no note as to which analgesia was used). Inasmuch as the great majority of the remaining operations reported were done under stovain, it would rather appear that novocain predisposes to earlier onset of the ocular palsies, when they do occur, than the other analgesic agents employed for this purpose. Over against this seeming argument stands the contradictory findings in Lang's case[20] in which 15 cgm. of novocain were used intraspinally and the palsy did not appear in the right eye until the eleventh day and in the left eye until the

18. Scheppens: Clin. Opht., Nov. 25, 1908.
19. Mühsam: Deutsch. med. Wchnschr., 1906.
20. Lang: Deutsch. med. Wchnschr., 1906.
21. Baisch: München med. Wchnschr., 1906.
22. Goetermann: Berl. klin. Wchnschr., 1908, No. 28.
23. Landow: München. med. Wchnschr., July 24, 1906.
24. Ach: München. med. Wchnschr., liv.
25. Mingazini: Rev. Neurol., March 15, 1908.
26. Becker: München. med. Wchnschr., 1906, No. 28.

thirtieth day! Whereas in Vossius' case, above referred to, but 8 cgm. of novocain were used with but four days' interval between the use of the anesthetic and the onset of the palsy. Plainly, some other factors must be at work. With these I shall deal when discussing the pathogenesis of these palsies.

V. THE DURATION OF THE PALSY AND FREQUENCY OF RECOVERY

There is much uncertainty about this phase of the matter. In twenty-six cases in which this datum is alluded to, five seem to have been transitory, as the duration was but from five to six days and the patient was very little if at all inconvenienced thereby. In one case eight days elapsed before single vision ensued, in another twelve and in three others twenty-one, twenty-two and twenty-three days, respectively. In one case recovery is noted after six months and in another after eight months; but in five at least the palsy seemed as fixed at the time of report of the case as it was at first.

In all, sixteen positive recoveries are recorded in twenty-six cases that were watched, although one of them, as stated, was eight months in achieving single vision. It would, therefore, appear that a certain small percentage (as yet unfixed) will exhibit some form of permanent ocular palsy as one of serious complications of spinal analgesia.

OCULAR PALSIES RESULTING FROM SPINAL ANESTHESIA

Reporter.	Reference.	Age.	Sex.	Alkaloid Used.	Dose. Cgm.	Muscles Affected.	Time After Operation Palsy Appeared. Days.	Duration of Palsy.	Result.
Loeser	Med. Klin., 1906, No. 10	45	M.	Novocain	?	L. sup. oblique	5	6 mos.	Recovery.
Loeser	Med. Klin., 1906 No. 10	25	F.	Stovain	?	L. ext. rect.	8	8 mos.	Recovery.
Schoeler	Soc. d'Opht. de Berlin, 1906	?	?	Stovain	?	R. ext. rect.	8	?	?
Feilchenfeld	Centralb. f. prakt. Augenh., 1906	?	?	Stovain	?	L. ext. rect.	12	?	?
Feilchenfeld	Centralb. f. prakt. Augenh., 1906	?	?	Stovain	?	L. ext. rect.	?	?	?
C. Adam	München. Med. Wchnschr., 1906	33	M.	Stovain	?	L. ext. rect.	20	3 mos.	Still palsied at time of report.
Mühsam	Deutsch Med. Wchnschr., 1906	26	M.	Stovain	15	R. ext. rect.	10	21 days.	Recovery.
Mühsam	Deutsch Med. Wchnschr., 1906	27	F.	Novocain	8	R. ext. rect	4	22 days.	Recovery.
Lang	Deutsch Med. Wchnschr., 1906	61	M.	Novocain	15	Both ext. rect	R. 11 L. 30	?	Persisted at time of report.
Lang	Deutsch Med. Wchnschr., 1906	41	M.	Novocain	?	L. ext. rect.	11	5 days.	Recovery.
Vossius	Med. Gesellsch. Giesen, 1906	60	F.	?	?	L. ext. rect.	6	?	Persisted after 6 months.
Blanluet and Caron.	Soc. d'Opht. de Paris, 1906	51	M.	Stovain	5	L. ext. rect.	9	?	Persisted after 6 months.
Hermes	Med. Klin., 1906	?	?	?	?	One ext. rect.	?	?	?
Deetz	München. Med. Wchnschr., 1906, No. 28.	?	?	Stovain	?	One ext. rect.	12	?	?
Rausscher	München. Med. Wchnschr., 1906	?	?	Stovain	?	One ext. rect.	8	?	Recovery.
Rausscher	München. Med. Wchnschr., 1906	?	?	Stovain	?	One ext. rect.	13	?	Recovery.
Loeser	Med. Klin., 1906, No. 10	25	F.	Stovain	?	L. ext. rect.	12	12 days.	Recovery.
Schmidt-Rimpler.	Klin. Monatsbl. f. Augenh., July, 1907.	?	?	?	?	One ext. rect.	?	?	Recovery.
Schmidt-Rimpler.	Klin. Monatsbl. f. Augenh., July, 1907.	?	?	?	?	One ext. rect.	?	?	Palsy persisted.
Adam	Deutsch Med. Wchnschr., 1906	26	M	Stovain	?	One ext. rect.	?	?	Recovery.
Adam	Deutsch Med. Wchnschr., 1906	26	F.	Novocain	?	One ext. rect.	?	?	Recovery.
Scheppens	Clin Opht., Nov. 25, 1908	?	?	Cocain	?	L. ext. rect.	?	?	?
Baisch	München. Med. Wchnschr., 1906	?	?	Alypin	?	Both ext. rect	?	5 days.	Recovery.
Goetermann	Berl. Klin. Wchnschr., 1908. No. 28.	?	?	Tropacocain	?	Both ext. rect.	8	?	?
Landow	München. Med. Wchnschr., 1906	?	?	Novocain	?	Both ext. rect.	7	?	Recovery.
Mingazini	Rev. Neurol., March 15, 1906	16	M.	Stovain	?	Almost complete ophthalmoplegia externa.	13	?	?
Becker	München. Med. Wchnschr., 1906	?	?	Stovain	6	Third nerve and sixth nerve.	11	?	?
Ach.	München. Med. Wchnschr., 1907	?	?	Stovain	?	One ext. rect.	8	21 days.	Recovery.
Ach	München. Med. Wchnschr., 1907	?	?	Stovain	?	One ext. rect.	4	43 days.	Recovery.
Ach.	München. Med. Wchnschr., 1907	?	?	Stovain	?	One ext. rect.	11	6 days.	Recovery.
Ach.	München. Med. Wchnschr., 1907	?	?	Tropacocain	?	One ext. rect.	7	8 days.	Recovery.
Reber	Present report	40	M.	Stovain	6½	Both ext. rect	12	?	Persisted at the time he left hospital.
Reber	Present report	16	F.	Stovain	6½	Both ext. rect.	8 weeks.	6 mos.	Palsy persisted.
Reber	Present report	24	M.	Stovain	6½	L. ext. rect.	7	7 days.	Recovery.
Reber	Present report	35	M.	Tropacocain	6½	One ext. rect.	10	14 days	Recovery.
Reber	Present report	19	F.	Stovain	6½	L. ext. rect.	7	?	Under observation only 3 days at time of report.

In two positive cases recovery is noted after six months and in another after eight months; but in five at least the palsy seemed as fixed at the time of report of the case as it was at first.

VI. THE PATHOGENESIS OF SUCH PALSIES

The pathogenesis of these palsies is not clear. Adam[12] quotes Oppenheim in his opinion that tiny nuclear hemorrhages are the cause of such palsies, and Kalt,[27] in the discussion of Blanluet and Caron's case, asked whether the symptoms might not have been due to an ordinary hemorrhage which took place at the time of injection. The argument, however, does not explain the usual interval of eight to ten days between the spinal anesthetization and the onset of the palsy. To meet this particular objection Müller[28] suggests that these palsies may be due to inflammation in consequence of overstretching or crushing suffered by the nucleus or nerve during or after the sudden outflow of the cerebrospinal fluid. Blanluet and Caron[10] are seemingly much of the same mind, for they feel that we cannot lightly put aside the idea of an infectious meningitis in such cases. They further urge that a subsequent lumbar puncture done with the idea of examination of the cerebrospinal fluid be performed at the same time such palsies occur. The facts that these palsies are frequently one-sided seems to them to exclude the possibility of toxemia which generally produces bilateral phenomena (see Babcock's remarks following).

The superficial position of the abducens nucleus in the fourth ventricle is advanced by Schmidt-Rimpler[11] as the most probable reason for the frequent involvement of the muscles supplied by the sixth nerve. The fourth ventricle communicates through the foramen of Majendie and the lateral apertures with the arachnoid space of the cord which contains the anesthetizing fluid. Involment of the roots of the vagus and glossopharyn-

27. Kalt: Ophthalmic Year-Book, 1907, p. 95.
28. Müller: Ztschr. f. Augenh., April, 1908.

geus which have likewise a superficial position are not rare in lumbar anesthesia. The fact that these particular palsies do not occur until about eight to ten days after the spinal anesthesia has been advanced, says Schmidt-Rimpler, is an objection to the above hypothesis, but (he goes on to say) "we observe an analogy in the delayed effect of the diphtheria toxins on the ocular nerves which also do not generally occur until several weeks after the recovery from the primary disease." Ach[24] evidently had just some such idea in mind when he made his experiments on eighteen rabbits to learn whether colored fluids injected into the spinal canal do really reach the base of the brain. He quotes Quincke, Jacob, and Crile, all of whom assert that colored fluids do rapidly reach the basis cerebri; but Ach could get no such results himself. Braun (quoted by Ach) contends that animal experimentation has only lent confusion to our ideas on this subject. Ach feels that stovain is the offending substance and should be avoided. He also counsels that patients should remain in a semirecumbent position with the shoulders raised for some time after the injections. Feilchenfeld[15] goes further than Ach in his belief that stovain is the chief offending substance and holds that there is an elective affinity of the various anesthetic substances for the various tissues and nuclei in the fourth ventricle. He even goes so far as to assert that stovain is most likely to produce abducens palsy, while novocain selects the trochlearis for its special action! A glance at the accompanying table will show that of the six times novocain was used for spinal analgesia it produced trochlearis palsy once and abducens palsy five times; so that his theory meets with no support from the facts.

Pechin,[29] in discussing Blanleut and Caron's case, remarked that it was possible for the liquid injected to have reached the higher centers by diffusion and thus come in contact with the sixth nerve nuclei. In the case reported, he was inclined to view the oculomuscular disturbance as of labyrinthine origin, from the presence of the drug in the cerebrospinal liquid bathing the ampulla. Bonnier,[30] too, urges that the intimate relation which exists between irritation of the labyrinth and oculomuscular disturbances has not been sufficiently recognized. He points out that it is only recently that the association between otitis and palsy of the sixth nerve has become well known (Gradenigo's syndrome), although many authors have called attention to the association. Bonnier thinks that the connection between oculomuscular disturbance and labyrinthine disease is as frequent as such association between the former and affections of the globe is rare. He believes that this gives the clue to the explanation of the occurrence of oculomuscular disturbance after spinal anesthetization. The fluid injected reaches the cavity of the labyrinth and there comes into the closest contact with the nervous mechanism of the ear, which involves a motor nerve of the eye, the sixth being most frequently affected.

W. Wayne Babcock has still another theory to account for these palsies; and, as he has personally induced nearly 1,500 spinal analgesias, I wrote him in reference to the matter. His reply follows:

> There have now been given by Dr. Steele, Dr. Martin (and his assistants), Dr. Applegate and myself, about 2,000 injections for the production of spinal analgesia. Personally, I have given about 1,400 injections, having used stovain, tropacocain, eucain, cocain lactate, novocain and alypin. Most of the injections have been given with stovain or tropacocain. These analgesics have been given dissolved in water, with or without the addition of sodium chlorid, adrenalin, 10 per cent. alcohol or strychnin. I have had great difficulty in securing uniform solutions, although ampoules of the solution have been prepared for us by German, French and several American chemists, and we have also prepared the solutions extemporaneously. All these local anesthetics seem to share with cocain, though perhaps to a lesser degree, instability in the presence of heat, so that boiling may set free certain undesirable and even toxic substances. I have noticed the clinical evidence of this with cocain in decreased anesthetic action and severe pain after the injections of boiled solutions of this alkaloid for purposes of ordinary local anesthesia. I have seen local necrosis follow the injection of stovain in strong solution in the prepuce. When used for spinal analgesia, boiled stovain solutions give more frequent and more severe secondary headaches (and, at times even stiffness and rigidity of the muscles of the back of the neck) than solutions which have not been exposed to high degrees of heat. Moreover, the solutions which show the greatest untoward after-effects seem to show a deficiency in analgesic power. Similar observations have been made in reference to tropacocain.
>
> Despite considerable correspondence, we have not been able to secure uniform solutions from some of the chemists we have appealed to. One lot of 100 ampoules (Tyndalized) gave excellent anesthesia and were practically free from all secondary effects; the use of another lot would be found deficient in analgesia, with marked secondary headaches and occasional rigidity of the muscles of the back of the neck. Jonnesco, who apparently has recently come to the same conclusion, prepares the solution at the time of each injection, and never subjects the stovain or other substance employed to heat.
>
> Influenced by our investigations showing the marked antiseptic properties of stovain, we have recently been led to dispense with the sterilization of stovain, and a limited use of such extemporized solutions has given us much satisfaction. It has been our custom to discontinue the use of certain lots of ampoules as soon as we determined that they gave rise to frequent secondary headaches or other undesirable phenomena. Occasionally it has happened, however, that others connected with the Samaritan Hospital staff, not knowing that a certain solution had been discarded by us, have once or twice used such solutions. It was after the use of such a solution (that I had practically condemned) that the first case of ocular palsy in the service of Dr. Martin occurred. A recent case occurred after the receipt of a new lot of ampoules, which we assumed were identical with the satisfactory lot previously used, but which evidently had been more or less decomposed by heat. In the last case, 4 per cent. tropacocain was used, dissolved in 10 per cent. alcohol. It is my belief that in all cases the amount varied between 5 and 8 cgm. In a number of instances, we have given high injections of tropacocain or stovain, including injections through the seventh cervical or the first dorsal interspace; also we have secured high anesthesia by injecting into the lower dorsal region, solutions of a low specific gravity, with the patient so arranged that the solutions would ascend and affect the upper cord. After none of these injections have we observed ocular or other palsy.
>
> The interesting fact is that all of the four cases in which ocular palsies have been noticed have occurred after injections for analgesia of the lower abdominal segments.
>
> At the present time, I would draw the following conclusions:
>
> 1. We have no positive final proof that pure stovain or tropacocain, when used for spinal analgesia will be followed by paralysis of the ocular muscles.
>
> 2. The use of solutions of both stovain and tropacocain may be followed by such palsies and by other symptoms suggesting the presence of associated by-products.
>
> 3. The palsy may occur irrespective of the use of adrenalin, alcohol, glucose or other admixture, although it is possible that some of these substances may accentuate or favor the undesirable effect.
>
> 4. The antiseptic properties of stovain and tropacocain and the fact that in quite a number of instances I have withdrawn cerebrospinal fluid from one to many days after the spinal analgesia, and have never found the slightest turbidity of cel-

29. Pechin: Ophthalmic Year-Book, 1907, p. 96.
30. Bonnier: Ann. d'Ocul., July, 1907, p. 67.

lular exudate, or other indication of inflammatory action, inclines me to the belief that sepsis or a bacterial irritation is not responsible for the ocular palsy.

5. An incidence of ocular palsy in one to 400 or 500 spinal analgesias and the occurrence of frequent headaches should make surgeons very careful to avoid heated or decomposed solutions for spinal analgesias.

6. Spinal analgesia should not be discredited by the untoward effects resulting from decomposition or contaminating by-products. Unfortunately, no Squibb has yet arisen to do for spinal analgesics what has been done for ether and chloroform.

It may be interesting to add that I have seen a much greater incidence of brachial and musculospiral palsy after etherization than muscular palsy after spinal analgesia.

The ideas advanced by Babcock seem to me plausible, and it is possible that if this phase of the subject is followed out it may help much to clarify the present confusion concerning the pathogenesis of these palsies. Further investigation of this subject would imply at least two lines of action. First, the most careful polariscopic studies should be made of both boiled and unboiled solutions of the local anesthetics used for spinal analgesia, this to be supplemented by animal experimentation as to toxicity or non-toxicity of heated or boiled solutions as compared with non-heated solutions. At the same time I am deeply impressed with the findings in Case 5, which occurred on the day this paper was to be forwarded to the Secretary of the Section. In this case we have combined the cycloplegia and weakness of the externi so characteristic of the post-diphtheritic toxemias, and it is difficult to put aside the conviction that some form of low-grade toxemia is operative in these cases.

Finally, if, as herein shown, two cases in 2,000 spinal analgesias exhibit, as by-products, ocular palsies of more than three months' duration, it must be admitted by all conservative surgeons that there exists a remote complication of spinal analgesia thus induced that should be taken into account. Whether it be due to the presence of the by-product referred to or to actual anatomic lesions following the use of the analgesic agent, or to some obscure toxemia, remains to be settled.

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ABSTRACT OF DISCUSSION

DR. JOHN GREEN, JR., St. Louis: Spinal anesthesia, or analgesia, as its exponents prefer to call it, has received fresh impetus through the energetic advocacy of Dr. Jonnesco, who has made pilgrimages to foreign countries and personally demonstrated before large bodies of medical men the technic of this procedure, and it is safe to say that ten spinal anesthesias are being induced to-day where one was induced two years ago. For this reason it is entirely proper that the results of this method, whether favorable or unfavorable, should be carefully scrutinized and the dangers, if any, definitely determined. Dr. Reber is to be commended for bringing to our attention perhaps the most serious effect of spinal anesthesia, namely, ocular muscle palsy.

The most fascinating problem connected with this subject is that of the pathogenesis of these palsies. Oppenheim ascribes them to tiny nuclear hemorrhages and Kalt to ordinary hemorrhages at the time of injection. Dr. Reber believes that the late appearance of these palsies, averaging ten days after the injection, speaks against these hypotheses. Let us recall, however, that hemorrhage into a nerve sheath of traumatic origin may not evoke an immediate palsy and it is quite impossible that a palsy incident to hemorrhage from spinal anesthesia may likewise be delayed.

Müller's suggestion of an inflammation of the nuclei and nerve trunks as the result of mechanical stretching or crushing incident to the outflow of cerebrospinal fluid seems at least plausible. It should not be forgotten that the withdrawal of cerebrospinal fluid, even in small quantities, brings about a change in the relation of the skull box to the brain mass; so that we may have a slight shifting of the brain. The delicate brain does not adjust itself after disturbance, as, for instance, do the organs of the abdominal cavity. A slight alteration in pressure, the impinging of a bony prominence on a portion of brain which before was free from such contact, may have unsuspected consequences.

It hardly seems possible to accept the theory of a meningitis, as advanced by Blanluet and Caron, in the absence of more definite signs pointing to this disorder. The case cited by Dr. Reber, in which there was weakness of the externi and diminution of power of accommodation, would lend support to Schmidt-Rimpler's conception of a toxic process analogous to the effect of diphtheria toxin. Dr. Babcock's experience has led him to somewhat similar conclusions. In this connection it may be well to inquire what untoward effects have been observed as the result of simple lumbar puncture. I am informed by Dr. W. W. Graves of St. Louis, who in the past two years has performed about 350 lumbar punctures, that unpleasant or alarming symptoms, such as headache, prostration, a fall of arterial pressure accompanied by coldness of the extremities and feeble cardiac action are frequent. Individuals with angiosclerosis and low blood-pressure, from whom a relatively large quantity of cerebrospinal fluid has been withdrawn, are especially liable to exhibit such symptoms. Another factor in the development of these after effects has been the failure to maintain a recumbent posture for from twenty-four to forty-eight hours. No cases of ocular palsy have occurred in this series.

But ocular palsies, after simple lumbar puncture, do occasionally occur. H. Wolff (*Berl. Klin. Wchnschr.*, Oct. 14, 1907), relates the following case: A trocar was introduced into the subarachnoid space of a thirty-six year old man preparatory to the injection of stovain solution. As a few drops of blood appeared, it was deemed unwise to inject the anesthetic solution, and the patient was operated in general narcosis. A few hours after the operation, the patient complained of severe backache radiating to the shoulders and chest. The following day there was intense pain in the head and neck, and on the fifth day a well marked right abducens palsy appeared. The latter gradually diminished but did not clear up entirely until eleven weeks after the injection. Wolff points out the similarity, as to onset and course, with the palsy following spinal anesthesia. In his opinion, the formation of an intradural hematoma gave rise to toxic products which acted on the abducens nucleus or intradural course of the nerve.

If ocular palsy may occur after simple lumbar puncture, is it not probable that the lumbar puncture preliminary to the introduction of an anesthetic solution may, more frequently than has been supposed, offer the true explanation for the paralysis?

DR. W. W. GRAVES, St. Louis: As you have just heard from Dr. John Green, Jr., I have made about 350 lumbar punctures during the last two years, and I have not seen any ocular palsies, but I have seen some untoward effects. These untoward effects have occurred in individuals who have had rather marked arterial changes, associated with a relatively low arterial tension, and in cases in which it has been impossible to keep the patient in a recumbent position for forty-eight hours after the puncture. In those cases of decided arteriosclerosis with high tension I have not found, even where my 48-hour rule has not been followed, any untoward effects. So I take it from this experience that the physiological relation between arterial tension on the one hand and the vascular condition on the other was disturbed by withdrawing fluid and thus was brought about the untoward effects mentioned by Dr. Green; but so far, never ocular palsies. The fact that most of these palsies, as I understood Dr. Reber to say, do clear up in time, would almost exclude nuclear lesion. Definite nuclear lesions do not as a rule proceed to complete recovery in any length of time.

In talking this matter over with Dr. Green I expressed the view that it was the sudden disturbance of that normal,

physiologic process which maintains a balance between the secretion of cerebrospinal fluid and its absorption. The sudden lowering or sudden increase of pressure by the withdrawal of fluid or by the introduction of foreign matter, as the stovain solution, may disturb this balance, and if this is true, it is quite thinkable that we may have a disturbance in function of any part of the nervous system. Nervous tissue, unlike other tissues of the body, will not stand sudden interference with its equilibrium, sudden pressures or sudden pulls and stretchings. Having previously a defective arterial system, as an arteriosclerosis, thrombosis of minute vessels incident to the lowering of arterial tension from the withdrawing of spinal fluid seems possible, and in this way ocular muscle palsies might occur. Furthermore, anything that will suddenly interfere with that normal equilibrium maintained in the central nervous system is capable in a mechanical way, it seems to me, of bringing about certain palsies. The fact that the abducens is particularly vulnerable may be accounted for by its course and its exposure to pressure and torsion, different from that of the other cranial nerves. Another factor that has occurred to me is this: Those patients operated on surgically are not, as a rule, examined previously neurologically or ophthalmologically, and may it not be that in some cases there has been a preexisting lesion, and the sudden disturbance of intracranial pressure by the withdrawal of fluid or the introduction of more fluid may be but one factor in the production of these palsies; in other words, may it not be that an unrecognized condition was present before the lumbar puncture was made or before fluid was introduced into the spinal canal?

DR. ALFRED SAENGER, Hamburg: I am not prepared to discuss this paper, but I will tell you my experience in Hamburg at the Hospital of St. Georg. In our hospital we have seen paralysis of the abducens nerve in, I think, only five cases; but in one case it was a paralysis, not only of the abducens nerve; and it was an especially deplorable case because the patient was also a doctor of medicine. He had arteriosclerosis, and, in consequence, gangrene of the left foot. The surgeon told him that it was not necessary to use chloroform anesthesia, but that lumbar anesthesia with stovain would be used. He was pleased that the lumbar anesthesia could be used, because he had a fear of chloroform. But after the anesthesia he had paresis of the right abducens, and, curiously, paralysis of the median and a neuritis of the right crural nerve, and was compelled to remain in bed. The paralysis of the abducens lasted about four months and the paralysis of the median for about the same period. The neuritis of the crural nerve is better, but there remains an atrophy of the median nerve which will last permanently. I am of the opinion that the drug caused this affection, and we have to admit that stovain may cause paresis of the abducens.

DR. JAMES BORDLEY, Baltimore: Dr. Cushing in his work on brain tumor has had several cases of paralysis of the external rectus, and it has occurred to me that the same cause which produced this change in the patients with brain tumor might have produced it in those in whom irritating solutions were injected into the spinal canal. Normally, the nerve at its exit at the base of the brain lies external to the artery, but in some cases—in every case of Dr. Cushing's with brain tumor resulting in paralysis of the external muscle—the nerve was next to the brain and the artery external. As the edema of the brain from pressure increases it puts the artery on the stretch and the more the artery stretches the deeper it tunnels the brain, and under the artery lies the paralyzed nerve. It is the stretching of the artery as the result of the edema of the brain, and secondarily, the pressure of the artery on that nerve, which produces the paralysis.

DR. G. C. SAVAGE, Nashville, Tenn.: I learn from Dr. Reber's paper that there are two points through which the needle may be passed in making these injections. To pass a needle connected with an empty syringe at one of these places and insert the needle with the filled syringe at the other place, and then simultaneously withdraw fluid with the empty syringe and inject the anesthetic with the other, that would enable one to put in just as much fluid as was taken out, and certainly would not increase or decrease the amount of pressure within.

DR. W. REBER, Philadelphia: Dr. Savage has suggested what Dr. Babcock has done repeatedly, and also, I believe, Dr. Morton of San Francisco, and one or two others. It is a comforting thing that the duration of these palsies, as a rule, is self-limited; approximately two to four weeks. But I regret to say to you that recently I saw a young woman who had been under observation for eleven months and she still had absolutely the same degree of bilateral external rectus palsy. Strangely enough, the temporal rotation in each eye (individually) was 45°! I can see the possibility of ground for legal action in these cases, and feel that it is necessary to bring out that point. Dr. Babcock himself has done about 2,100 spinal anesthesias and recognizes the gravity of this complication. At the Samaritan Hospital in Philadelphia the amount of cerebrospinal fluid withdrawn is a minimal amount; only a few drops are allowed to escape. For a long while they estimated it at a few drops and then they measured and found the average amount was about 10 c.c. They usually introduce about 6 c.c. of the anesthetic agent, no matter which one it may be. Those foreign authors who think the anesthetic agent has a selective action on any one muscle have absolutely no basis for their conclusion, for with stovain one may observe a palsy in any one of the muscles supplied by the third, fourth and sixth nerve. There is no selective action in evidence in the cases submitted by me. Dr. Graves' remarks are pertinent, for no neurologic or ophthalmologic examination was made. I was also gratified at Dr. Saenger's discussion in calling attention to the fact that his patient had very bad arteries. This may be a deciding factor in a goodly percentage of cases. I am also tremendously interested in Dr. Bordley's remark. My understanding is that all the cases to which he referred were autopsied. That is the kind of work that is going to lead us closer to the solution of this question.

THE DANGER OF SYMPATHETIC OPHTHALMIA FROM THE USE OF THE CAUTERY IN TREATING IRIS-PROLAPSE

OTHER METHODS OF TREATMENT *

H. GIFFORD, M.D.
OMAHA

In 1897 Trousseau[1] reported three cases of sympathetic ophthalmia (two of his own and one of Kalt's) following the use of the galvanocautery in treating prolapse of the iris; and in the same year[2] I felt impelled by my own experience to second the warning given by Trousseau. Since then I have happened to notice the histories of seven cases of sympathetic ophthalmia in which the authors mentioned incidentally that a wound or an iris prolapse had been cauterized a suitable length of time before the outbreak of the disease in the second eye. These cases were reported by the following authors: Alexander,[3] Darier,[4] Alberti,[5] Dimmer,[6] and Fuchs,[7] who each report a case occurring after cauterization of an iris prolapse or a cystoid scar; and Cohn[8] mentions two cases from the clinic of Silex in which a wound was cauterized before the sympathetic ophthalmia broke out. Finally, Trousseau[9] again returns to the subject with the report of two additional cases of the sort and a renewal of his warning against the use of the cautery.

* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Trousseau: Recueil d'Ophth., 1897, p. 249.
2. Gifford: Ophth. Rec., 1897, p. 673.
3. Alexander: Ophth. Klin., April 5, 1900.
4. Darier: Ophth. Klin., Aug. 5, 1900.
5. Alberti: Beitr. z. Augenh., v, 743.
6. Dimmer: Ztschr. f. Augenh., August, 1901.
7. Fuchs: Arch. f. Ophth., lxx, 469.
8. Cohn: Ztschr. f. Augenh., January, 1905.
9. Trousseau: Arch. d'opht., November, 1909.

Trousseau does not attempt to explain how the cautery favors the occurrence of sympathetic ophthalmia, but in following the subject for a number of years I have noted two communications which throw some light on the subject. Franz[10] has found as the result of experimentation that the sloughs produced by the use of the actual cautery in the abdominal cavity decidedly favor the occurrence of infection; and La Garde[11] discovered that, when the tissues are burned, tetanus can be produced by quantities of the tetanus bacillus which are quite harmless when introduced into incised wounds.

In the early days of my practice I used to regard the charred and dead tissue left by the cautery as an efficient protection against infection or reinfection, but for many years I have taken the opposite view, and when I have found it desirable to use the cautery, as in some cases of trachoma, I have carefully scraped away all the dead tissue and I am sure that this has been followed by less irritation than when the sloughs have been allowed to remain; and in some corneal ulcers after using the cautery I scrape away the slough and apply trichloracetic acid to prevent reinfection. Whether the influence of the cautery slough in favoring infection is due to its forming a favorable culture medium or whether it depends on the nature of the surface left when the slough separates, I cannot at present say; but that such an influence exists and that it should make us cautious in the use of the cautery for iris prolapse is, I think, undoubted. For certain prolapses, however, when they are so small and old that they cannot be seized and cleanly excised, the cautery is so convenient an agent of destruction that if it could be used safely it would be highly desirable to retain it in favor; and I believe that if the burnt and dead tissue be scraped away and the raw surface covered at once with a conjunctival flap all danger from its use can be avoided.

USE OF TRICHLORACETIC ACID

The use of a conjunctival flap, however, necessitates an operation which, slight as it is, we like to avoid if possible; and with this in view I have experimented for a year or so with the treatment of prolapses by trichloracetic acid.

This agent, the introduction of which into ophthalmology we owe to Bulsom, produces a slight eschar which apparently offers a very unfavorable culture medium for germs. The reaction following its use, whether in the eye or the nose, is practically *nil;* and a few applications to an iris prolapse cause the latter to disappear or to be covered with a thin layer of connective tissue which, it would seem, must prevent the penetration of germs into the eye. I have used this agent with the best of results in cases in which after a large destructive corneal ulcer a considerable area of iris tissue has been left exposed. In cases of this kind I have never been able to get a conjunctival flap to adhere to the iris tissue, but by the use of the trichloracetic acid I have produced smooth white non-irritable scars; and in one case in particular, in which a large prolapse in the upper quadrant of the cornea was already infected and the eye apparently in a desperate condition, I am sure that the acid was the only thing that saved it from destruction.

Incidentally I may remark that in all cases of infected wounds of the eye I apply the trichloracetic acid vigorously for several days in succession, and in this way have in some cases saved the eye when at first the outlook seemed hopeless. I regret to report, however, that my confidence in the absolute security which I believed this acid conferred on eyes with iris prolapse has been shaken by the following case:

History.—In the fall of 1908 I extracted, with a hook, a tough membraneous cataract from the left eye of a woman, aged about 50. A moderate amount of vitreous came with it; enough to interfere with a perfect reposition of the iris. The healing was smooth but an iris prolapse rather more than 1/16 inch in diameter developed at the inner angle of the wound. To this I applied trichloracetic acid four or five times, at intervals of three or four days, with the result that it disappeared entirely, leaving a smooth flat white surface almost indistinguishable from the other end of the scar. The patient left the city several weeks later with the eye free from irritation and possessing V. = 20/50 plus. The other eye was perfect, the extraction having been done largely for cosmetic purposes.

Subsequent History.—In the following September the woman returned, stating that some weeks after I had last seen her, that is, two months or more after the operation, the operated eye had become inflamed and a few weeks later the right eye followed suit; and in spite of treatment by a very competent oculist the vision of both eyes had been so much reduced that she could barely find her way about. I found the pupil of the left eye drawn high up and closed, V. = light, while in the right eye the pupil was secluded and nearly occluded, V. = fingers at four feet. Both eyes were practically free from irritation and there was no sign of the former prolapse in the operated eye. An iridotomy has restored useful vision to the left eye, but when in January, 1910, after a prophylactic course of moderate doses of salicylate, I performed an iridectomy on the apparently quiet right eye, the pupil promptly closed up with exudate.

This case is such an unusual one that I am not sure that I ought to place any blame on the trichloracetic acid; but I feel that I ought to mention it as part of the evidence before the jury, and the next iris prolapse which I treat I shall, after the use of the cautery or trichloracetic acid and scraping, protect with a conjunctival flap if it is possible; but if it is one of the large prolapses within the corneal area I shall treat it with trichloracetic acid.

In view of the large number of prolapses which we see that never seem to cause any irritation nor do any harm the question may well be asked why bother any of them. The case is parallel to the problem of prophylactic enucleation. We know that the majority of injured sightless eyes do not cause sympathetic ophthalmia, but some of them do; and so do some iris prolapses. I have seen sympathetic ophthalmia in at least six cases of untreated iris prolapse from comparatively slight wounds.

With regard to fresh traumatic prolapses that cannot be replaced we can all agree that there is no treatment like a clean incision, but in deciding whether or not a prolapse can be replaced one should not forget the method of indirect reposition advocated by Dunn[12] of Richmond, Va., and after him by Jameson.[13] The principle of Dunn's method is that, instead of trying to push the prolapse back through the original wound, it is better to make another opening at a distant point of the corneal margin and, with a spatula introduced through this, draw back the iris from the original wound. I can recommend this method heartily in fresh cases, having used it in one case with perfect success.

CONCLUSIONS

My own conclusions on this subject may be summed up as follows:

1. Fresh non-infected prolapses should be replaced, if possible; preferably by Dunn's method.

10. Franz: Abst. in Centralbl. f. Chir., 31, 1902.
11. La Garde: THE JOURNAL A. M. A., April 18, 1903.
12. Dunn: Arch. Ophth., September, 1907.
13. Jameson: Arch. Ophth., January, 1909.

2. Prolapses which cannot be cleanly excised should, if possible, be cauterized and the area scraped and protected at once by a conjunctival flap.

3. On account of the danger of sympathetic ophthalmia no prolapse should be treated by a hot metal cautery, unless a protecting conjunctival flap can be made to adhere to the area cauterized; it is probably safer to let the prolapse alone.

4. In some cases of large corneal prolapses to which conjunctival flaps can be made to adhere with difficulty or not at all, the use of trichloracetic acid (and probably of various other chemicals) produces a firm nonirritable scar. Whether this method is entirely devoid of danger remains to be seen.

Brandeis Building.

ABSTRACT OF DISCUSSION

DR. R. H. T. MANN, Texarkana, Tex.: I wish to emphasize the fact that I do not believe we yet realize sufficiently the use of the conjunctival flap in many of these cases. I think it is a method which should be used whenever it can be. It will grow in some of these cases in which you think it will not grow, and even a staphyloma may subside after the use of this flap. I have seen it very successfully used in many of these cases.

DR. JOHN A. DONOVAN, Butte, Mont.: After the experience of Dr. Gifford it is hard to say that the cautery is absolutely safe. I am still a firm believer in the cautery. Most of my cases are traumatic. Where the field of prolapse is large enough I have abandoned the method of simple cauterization. If it is large or protrudes I cut it off with the scissors or knife and then cauterize. There is one mistake in using the cautery. Most operators use too much heat and a too prolonged application. In a treatment by the cautery use little heat, quickly searing it, or dry or scorch it. I think it is a very important addition to the treatment and I use it to prevent infection. One point I make is to touch the edge of the cornea where it joins with the iris so as to try to get union between the cornea and the iris.

DR. EDWARD JACKSON, Denver: I should like to ask Dr. Gifford if he feels that the dangers of infection attend the use of the cautery in instances in which the iris is not involved. With reference to iris prolapse, while it requires a good deal of nerve in some cases, I feel that the best results, or at least as good a result as is attained in any other way, is attained by letting the prolapse alone. If the prolapse is large—and I have seen some large ones following simple extraction, from one end of the incision to the other—the scar swells out and it is six or eight weeks sometimes before it fairly begins to flatten down; and yet these scars in the end have been just as pretty and smooth scars and the pigmented iris tissue is better covered in than in some cases in which I had incised a part of the prolapse or touched it with the cautery or treated it in other ways. With an infected prolapse something must be done. I prefer to use nitric acid, which I find perfectly manageable. But where there is not some distinct infection of the prolapse the process of what might be called normal healing is just as much to be respected as the normal exudates in a wound are to be respected, and not disturbed with strong antiseptics. We have learned that strong antiseptic solutions do not promote normal and satisfactory healing; and I am inclined to look at prolapse of the iris in the same way. Unless there is distinct indication of infection I would not touch it with the cautery or with nitric acid, or anything else.

DR. H. GIFFORD, Omaha: I did not enter into the details of the conjunctival flap because that has been done a great many times, although there is one feature of it which I pointed out in the article in Dr. Posey's book years ago; that is, you do not need to have two stitches. Simply dissect the flap up widely, pull the flap across and a single stitch some distance away from the prolapse will hold it. With regard to the question of danger of touching the cornea with the cautery, of course, I do not consider there is any danger of touching the cornea alone, for we all have to do it in corneal ulceration and will have to continue it, I suppose. The danger is in cauterizing the tissues connected with the uveal tract in which the germs of sympathetic ophthalmia vegetate. With reference to the question of leaving the prolapse alone, I sympathize with Dr. Jackson. I have seen lots of these prolapses persist for years without doing any harm, but every now and then an eye is lost from an uncovered prolapse, either from panophthalmitis of the injured eye or from infection and sympathetic ophthalmia. So I believe the greatest good can be achieved only by destroying all prolapses that cannot be excised, and if the cautery is used the spot should at once be protected by a flap.

With regard to Dr. Donovan s remarks, I agree with him that the cautery is the quickest and most efficacious means of destroying a prolapse, but if he continues to use it as freely as he does without covering the burned spots with conjunctiva I am afraid he will have a disagreeable surprise such as Trousseau and I have had.

THE INFLUENCE OF DIET ON THE CHYLE*

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HISTORY OF THE SUBJECT

Opportunities to get pure human chyle in quantities sufficient for extensive chemical analysis have been exceedingly rare. In fact, a study of the literature back to the middle of the seventeenth century shows only 126 cases of the appearance of a milky fluid in pleural or peritoneal cavity.

These 126 cases fall naturally into two classes: (1) those in which the fluid was chyle, pure or modified, distinguished by the presence of free fat globules, minute in size and tending to rise to the top of the collected fluid as cream rises on milk; (2) those in which the fluid was milky in appearance, and contained fat, not in emulsion, but within fattily degenerated leucocytes and other cellular elements.

Senator[1] differentiated these two classes and designated them as ascites chylosus and chyliformis respectively. Osler[2] in 1900 differentiated a third variety of milky ascites which he called ascites lactescens, and whose milky appearance is due, not to fat at all, but to the presence of a large amount of globulin. It should be noted that the liquid in this case, while milky in general appearance, is rather opalescent and not difficult to differentiate from either of the two forms described above.

The study of these cases makes a chapter hardly less interesting to the physiologist than to the pathologist or the internist. In short, some of the cases, those of traumatic chylorrhagia, are of great interest to the surgeon, as well.

The literature has been collected by Bargebuhr,[3] by Shaw,[4] by Comey,[5] and by Boston.[6] The last author added the cases which have been described since Comey's bibliography, and corrected certain errors in the earlier bibliographies.

Of the 126 cases of ascites chylosus and chyliformis collected by Boston, something over half, or about 75 cases, have been found to be true chylous ascites, accord-

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

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1. Senator: Charité-Ann., 1883, x, 305.
2. Osler: Modern Medicine, v, 502.
3. Bargebuhr: Deutsch. Arch. f. klin. Med., li, 502.
4. Shaw: Jour. Path. and Bacteriol., 1900, vi, 339.
5. Comey: Boston Med. and Surg. Jour., Jan. 29, 1903, p. 113.
6. Boston, L. A.: Chylous Ascites with Eosinophilia, THE JOURNAL A. M. A., Feb. 18, 1905, p. 513.

ing to the definition of Senator;[1] i. e., "cases in which from any cause, the presence of chyle is demonstrated in the peritoneal cavity."

In a vast majority of the cases of chylous ascites the cause of the escape of chyle is found to be a pressure of tumors on the thoracic duct or on the abdominal chyle duct, interfering with the free flow of the chyle along the vessel. If the obstruction is sufficiently great the vessel ruptures and the chyle pours out directly into the pleural or peritoneal cavity.

The thoracic duct may be occluded by blood-clots in the subclavian vein or by lymph-clots in its own lumen, or it may be gradually occluded by pathologic changes in its own walls, as in the case reported by Comey[5] of chronic lymphangitis.

Cases of complete stoppage of flow of chyle through pressure on the vessel or through disease of its wall may be followed by rupture of the thoracic duct, the receptaculum chyli, or of some of the lacteals.

Of such cases nine are reported prior to 1902, namely those of Morton,[7] Percival,[8] Lossius,[9] Winiwarter,[10] Cayley,[11] Kein,[12] Hoppe-Seyler,[13] Whitla[14] and Comey.[5]

Of special interest are the cases of traumatic chylous ascites, of which only seven are reported prior to my case. Two of these seven cases, those of Merklen[15] and of Bell,[16] while traumatic are clearly only secondarily so, as in the case reported by Merklen the chyle began to collect in the peritoneal cavity ten months after the accident, while in the case reported by Bell the chyle did not make its appearance till seven months had elapsed after the accident. In both cases, however, the chylous character of the fluid was amply demonstrated by the presence of free fat. In neither of these cases is it certain that the chyle vessels were ruptured; in fact, the evidence is strongly against it.

I have been able to find only five reported cases of primary traumatic chylorrhagia prior to 1908, when the preliminary report was made on the case from Dr. W. E. Morgan's Wesley Hospital service.

Chomel[17] reported, in 1728, the case of a woman aged 24, who suffered an umbilical hernia during parturition. That there was also a rupture of chyle vessels was evidenced by the "spontaneous opening and emptying of five pints of milky fluid." Spontaneous recovery is also reported.

Quincke,[18] about the middle of the nineteenth century, reported the case of a 50-year-old man who was run over by a wagon, suffering a fracture of a rib on the right side, evidently rupturing a lymphatic, as the right pleural cavity filled with bloody chyle. Puncture was resorted to on three occasions and 1,800 c.c., 3,000 c.c., and 1,000 c.c. of chyle withdrawn. On the twenty-first day after the accident the man died. At the post-mortem there were 7,000 c.c. of chyle removed.

Munson[19] reports the sudden death of an 18-year-old youth after a violent struggle in asphyxia. The post-mortem examination revealed extensive firm clots of blood in the left ventricle, vena cava and subclavian vein. The lung was lacerated and the receptaculum chyli was ruptured and a few ounces of chyle were found in the peritoneal cavity.

Wilhelms[20] found the abdomen of a 6-months-old child who had suffered a paroxysm of *Stich-Husten*, filling with liquid. Puncture brought chyle. Subsequently ten punctures yielded several liters of chyle. The child died.

Eyer[21] reported the case of a man who suffered a fracture of several ribs in a railway accident. There were evidences of abdominal injuries. Finally a groin tumor, on being opened, poured forth a fetid substance that led to the diagnosis of fecal fistula. On the thirty-eighth day after the accident the man died. Post-mortem examination revealed a postpleural rupture of the thoracic duct. The contents of the duct burrowed between peritoneum and body wall as far downward as the groin, where it was opened. The bloody chyle had become infected and decomposed, which accounts for the mistake in diagnosis.

TABLE 1.—CHEMICAL COMPOSITION OF CHYLE

Determinations 1000 parts.

Determinations 1,000 parts	Winiwarter[10]	Quincke[18]	Hoppe-Seyler[13]	Whitla[14]	Merklen[15]	Osler[2] [cited]	Beebe[6]	Hall [Fat free]	Hall [Fat rich]
Reaction	Alk.	.....	Alk.	Alk.	.....	Alk.	Alk.	Alk.	Alk.
Specific Gravity	1.012	1.016+	.....	1.020	.....	1.007+	1.007+	1.007+	1.006
Water	910.49	.....	940.7	940.85	975.0	940.+	975.0	970.80	961.70
Solids	89.56	.....	59.3	59.15	25.0	60.—	25.0	29.20	38.30
Proteins	45.01	.....	36.7	28.78	12.5	30.±	2.75	12.37	12.40
Fats	36.80	11.44	7.2	10.30	3.5	10.±	2.0	6.77	16.86
Sugar	0.20	.....	.....	2.10	.....	*	.....	1.00	1.00(?)
Salts	7.55	.....	7.2	9.95	9.0	7.±	.....	9.06	8.04
Miscellaneous	.....	.....	4.5	8.02	.....	.....	1.0	.....	.....
Amount collected	Liters	12.8	.....	72	11	.....	.....	9.7	7.7

* Present.

Before entering on the description of Morgan's case I wish to call attention to the chemical analysis of the chyle withdrawn in cases of chylous ascites and of traumatic chylorrhagia. Table 1 shows a few of the more complete analyses. The specific gravity varies between 1.006 and 1.040. The chyle is quite uniformly alkaline in reaction. The solids amount to from 2.5 per cent. to 6 per cent. Principal among the solids are coagulable proteins 1 to 3 per cent. and fat, 1 per cent. to 3 per cent. The fats show the widest range of variation. Sugar is usually present in small and fairly uniform quantities.

CLINICAL AND EXPERIMENTAL OBSERVATIONS

History of the Case.—Early in December, 1907, Dr. W. E. Morgan was called in consultation in the case of Anton S., a lad aged 13, who had been run over by a wagon on which he was attempting to get a "hitch." The hind wheel of the wagon had crossed the body at about the line of the diaphragm, the boy lying on his back on the pavement. The surgical aspects of the case present many points of interest which have been discussed by Dr. Morgan.[22] Of interest here is the fact

7. Morton: 1705, cited in Van Swieten Commentaries, iv, 189.
8. Percival: Essays, Medical, Physiological and Experimental, p. 177.
9. Lossius: Historia Anatomica Medica, i, 257.
10. Winiwarter: Jahrb. f. Kinderh., xl-xii, 196.
11. Cayley: Tr. Path. Soc., London, 1866, xvii, 163.
12. Kein: Mém. Soc. de méd. de Strassbourg, 1881, xix, 2-52-57.
13. Hoppe-Seyler: Physiol. Chem. (Hirschwald), 1881, p. 597.
14. Whitla: Brit. Med. Jour., 1885, i, 1089.
15. Merklen: Semaine méd., 1897, p. 181.
16. Bell: Am. Med., 1905, p. 1861.
17. Chomel: Mém. de l'Acad. de sc., 1728 [cited by Bargebohr].
18. Quincke: Deutsch. Arch. f. klin. Med., xvi, 12.
19. Munson: Med. Rec., New York, 1873, viii, 202.
20. Wilhelms: Cor.-Bl. d. aerztl. Verein d. Rheinl., 1875, No. 14, p. 13.
21. Eyer: Med. Rec., New York, 1891, xl, 122.
22. Morgan, W. E.: Bull. Northwestern Univ. Med. School, June, 1909.

that within a few hours after the accident the abdominal cavity began to fill with liquid. After the liquid had accumulated to an extent which caused a considerable distention, a needle trochar was inserted and several quarts of milk-white chyle wholly free from blood was withdrawn. Arrangements were made to bring the boy to Wesley Hospital as a charity patient and he was admitted Dec. 13, 1907. The physiologic importance of the case was recognized, and Dr. Morgan invited me to institute such experiments as I desired in the period during which the surgeons were deferring operation, awaiting positive indications.

METHODS OF PROCEDURE

The fact that the patient seemed in a fairly normal condition, except for the leakage of chyle into the peritoneal cavity, and the natural consequences of such leakage, led me to institute a series of dietetic changes with a view to determining the influence of these changes on the chemical composition of the chyle poured out into the peritoneal cavity. The uncertainty of the time which would be at our disposal made it necessary that the observations be started immediately. The following plan was at once outlined: The observation periods were to be four days in length. It was planned to cut out all fat from the diet of the first period, so far as this was possible, leaving the carbohydrates and proteins undisturbed and in average amounts. The second period differed from the first in having a diet rich in fats; carbohydrates and proteins remaining the same. In Period 3 we returned to a fat-meager diet, rich in carbohydrates; proteins remaining average. In Period 4 we returned to a diet rich in fats, meager in carbohydrates; protein remaining average. Period 5 had a diet meager in fats, average in carbohydrates, rich in proteins.

In order to devise a fat-meager diet for the first period, we resorted to separated milk, cereals, bread without butter, rice without butter or cream, steak from which every visible vestige of fat had been cut away, and baked potatoes. Analysis of this diet showed that it still contained fat in the following amounts: 1,200 gm. of milk contained 18 gm. of fat; 500 gm. of bread contained 9.5 gm. of fat; 200 gm. of lean steak contained 7 gm. of fat; one egg contained 6 gm. of fat. Removing as much fat as possible from the diet, there still remained, according to the above figures, 40.5 gm., plus the amount in the oatmeal and rice, which was not determined.

All fat analyses of diet and chyle were made by desiccation at about 80° C., followed by extraction with ether, and evaporation of the latter, leaving the fats which were determined by weight.

The chyle was withdrawn at the end of the period in the first four periods. In the subsequent periods it was withdrawn at more frequent intervals. Every precaution was taken to prevent infection of the peritoneum, and throughout the whole series of observations there was no evidence that infection occurred. It was in order to avoid infection that the chyle was withdrawn by means of a needle trochar rather than through an open fistula. Had we adopted the open fistula plan, we could have collected the chyle for each day. As it was, we did not feel justified in using the trochar more frequently than the four-day periods. The chyle was caught in sterile liter flasks. Two cubic centimeters of formaldehyd were added to each flask, the flask sealed with a plug of cotton and placed in the ice-box. Two or three hundred cubic centimeters from each lot was kept out and subjected to an immediate analysis without addition of formaldehyd. The fresh chyle was subjected to both chemical and microscopical analysis, its specific gravity determined, its fat, protein and sugar determined. Fatty acids were also isolated, but as they appeared only in traces, the results have not been tabulated. The microscopic tests at no time showed more than normal proportion of leucocytes. We interpreted this, together with other facts, as indicating that no inflammation existed in the peritoneum. The chyle showed at all times an exceedingly minute division of the fat. On standing, the chyle separated into three layers—an upper fat emulsion, a middle opalescent layer and a flocculent sediment.

The feces were collected during each period and preserved in a ground-glass-top museum jar. The fecal collection for each period was stirred and mixed until it seemed to be a perfectly homogeneous mass. Double samples of each lot were taken for analysis and analyzed especially as to fats, the ash also being determined, however.

In the general hospital routine the house physician made a careful analysis of urine and blood at least once during each four-day period. During some periods, however, several analyses and counts were made, particularly of the blood during periods when that seemed to be becoming depleted. Several differential blood-counts were made, but only one showed anything of apparent interest. The neutrophils only were greatly increased in number during the last period. The weight was also determined. There was no medication during the periods reported here until January 8, when evident anemia seemed to demand attention, and the patient was given Blaud's mass, 5 grains three times a day, with the results indicated under the appropriate period.

DATA OF THE PERIODS I-VII

PERIOD I.—DECEMBER 14 TO 17 (FOUR DAYS INCLUSIVE)

Diet.—Meager in fat with average carbohydrates and protein: In order to remove as much of the fat as possible from the diet, the boy was put on separated milk, oatmeal and rice, bread, lean steak, baked potatoes, eggs; the latter, however, were removed from the list when it was found that the boy had an idiosyncrasy against them. One egg had been introduced into his first evening meal, but was kept down under protest and seemed to disturb him seriously for several hours. As stated above, this diet of the first period contained something over 40 gm. of fat.

Chyle.—This, withdrawn at the end of the period, weighed 3,021 gm., specific gravity being 1.007. We found it to contain 22.537 gm. of fat, which was 0.746 per cent. The protein estimated by determination of nitrogen through the Kjeldahl process was found to be 1.336 per cent., or 40.35 gm.; the sugar, a little more than a trace and not determined quantitatively.

Feces and Urine.—The former for the period amounted to 1,294 gm., whose fat content was 7.596 gm. The latter for the period was tested twice and found to be normal in both tests.

Blood.—Examined twice, and both examinations showed unexpectedly low red blood-corpuscle count, averaging 3,700,000; hemoglobin, 80 per cent.; white blood corpuscles, 14,000.

Weight.—73.5 pounds.

PERIOD II.—DECEMBER 17 TO 21

Diet.—Rich in fat, carbohydrates and proteins remaining unchanged. The menu for this period consisted of lean steak of the same cut as the previous period, to which was added weighed amounts of beef-fat, samples being kept for analysis; cream and full milk in equal parts, samples being kept for analysis. To these fat-rich foods the usual cereals, bread and vegetables were added; butter, cream and beef-fat being used freely with all of these foods. Analysis of the samples showed that the boy received during the four-day period 364.7 gm. of fat plus an undetermined amount of fat in the cereals and vegetables, which would approximately equal the undetermined amount in the diet of the first period.

Chyle.—The amount was 3,690 gm.; specific gravity, 1.005. This was found to contain fats to the extent of 1.858 per cent., making a total of 68.56 gm. Protein determined as above showed 1.215 per cent., or 44.84 gm. for the period. Carbohydrates, a trace only.

Feces and Urine.—The feces were 791 gm. for the period, containing a total of 23.762 gm. of fat. Two tests during the period showed that the urine remained normal.

Blood.—The count showed 3,875,000 reds, hemoglobin 80 per cent., and 16,000 whites.

Weight.—After withdrawal of the chyle on December 21 was 70 pounds. All weights were taken as nude weights, the clothing being weighed separately and the weight deducted.

PERIOD III.—DECEMBER 21 TO 25

Diet.—Meager in fat, rich in carbohydrates, proteins remaining unchanged. The 800 gm. of bread contained 15 gm. of fat; the 200 gm. of lean beef contained 7 gm. of fat; 1,000 gm. of chicken-broth contained 3 gm. of fat; 1,200 gm. of separated milk contained 18 gm. of fat; 100 gm. of soda-crackers contained 9 gm. of fat. The fat was undetermined in the following articles of diet: Prunes, tapioca, sugar, gelatin, baked apple, sliced oranges, grapes, canned corn, potatoes, bananas. The total estimated fat was 52 gm.

Chyle.—The amount withdrawn was 5,180 gm. It showed a specific gravity of 1.007 and a fat content of 0.608 per cent., or 31.49 gm. for the period; protein, 1.1375 per cent., or 58.92 gm. for the period; sugar, a little over 0.1 per cent.

Feces and Urine.—The amount of the former was 1,100 gm. for the period, containing a total of 12.89 gm. of fat. Two examinations during the period showed that the urine remained normal.

Blood.—Daily examination of the blood showed that it had come back practically to its original condition, the average red count for the period being 3,650,000; hemoglobin, 80 per cent.; white blood corpuscles, 12,600. The differential count showed no appreciable departure from the normal condition.

Weight.—Sixty-three and one-half pounds.

PERIOD IV.—DECEMBER 25 TO 29

Diet.—Rich in fats, meager in carbohydrates, proteins remaining unchanged: In order to add the maximum possible amounts of fats to the diet, we resorted again to butter, cream, beef fat; cream and full milk were mixed in equal quantities. Bacon appealed strongly to the boy's appetite and that was added to the menu. All of these fat foods, together with peanuts, were carefully weighed, representative samples kept for analysis, and the fat ingestion for the period footed up 534.44 gm. Other foods in which fat remained undetermined were chicken soup, "diabetic" bread, lean steak, celery, parsnips, cauliflower, baked apple. Note that the above diet contains a minimum of carbohydrates. Potatoes were also given, but they were sliced thin and soaked two hours in water to remove a portion of the starch.

Chyle.—At the end of the period 4,061 gm. were removed. Specific gravity was 1.006. The fat was found to represent 1.514 per cent., or 60.932 gm. of fat for the period. Protein determined as before was present to the extent of 1.2761 per cent., or 51.82 gm. for the period. Sugar dropped to a meager trace.

Feces and Urine.—The former amounted to 1,275 gm. for the period, which contained a total of 44.17 gm. of fat. Two determinations showed the urine to be maintained at normal.

Blood.—The count on the twenty-ninth showed red blood-corpuscles, 2,700,000; white blood-corpuscles, 8,400. The differential count showed no appreciable departure from that of the previous period in the proportion of the different kinds of white blood-corpuscles.

Weight.—Seventy pounds.

PERIOD V—DECEMBER 30 TO JANUARY 2

Diet.—Meager in fat, carbohydrates average, rich in protein. In order to reduce the fat to the lowest point possible and yet to increase the proteins to the highest point possible the following diet was chosen: Separated milk, 4,000 gm.; fat content, 60 gm.; lean beef, 760 gm.; fat, 26.6; beans (dry weight), 336 gm.; fat, 6.7; bread, 300 gm.; fat, 5.7; soda crackers, 110 gm.; fat, 9.9. The total fat content, so far as determined, was 108.9 gm. Besides these staple articles of diet there were baked apples, bouillon, potato, rice and tomatoes.

Chyle.—The chyle in this period was taken in two portions. At the end of the first day 1,006 gm. were drawn. At the end of the period only 504 gm. could be obtained. The analysis of this chyle demonstrated a fact which had been suspected for a number of days, namely, that in drawing the chyle at the end of the period and only once during the period we were not dividing the chyle to correspond with the diet period, but that allowance should have been made for a lag of twelve hours in the chyle period; i. e., the chyle of Period IV, when the patient was on a fat-rich diet, would not contain all of the fat of that period. The period ending at noon and the chyle drawn from 3 to 4 o'clock in the afternoon would not represent all of the fat given in the last meal, but the fat taken at the last meal of the fat-rich period would continue to appear in the chyle for a number of hours. This thing was noted, however, in Period V: that the fat represented 1.5 per cent. in the first lot of chyle drawn at the end of the first day of the period or 15.23 gm. for the first day, which is just about one-fourth of the amount of the previous four days on a fat-rich diet. The last three days of Period V yielded not only a smaller volume of chyle, but an opalescent lymph-like chyle with less than 0.1 per cent. fat, the actual percentage being 0.094, or 4.29 gm. of fat in three days. A mixture of a few cubic centimenters of Portion 1 with a proportional amount of Portion 2 yielded a mixture strikingly similar in appearance to the mixtures drawn off in Periods I and III on a similar diet. From these observations it would seem certain that more distinctive modifications of the chyle would be noted in the different periods if the chyle period had been set twelve hours later than the diet period. This could have been easily arranged by ending the diet period with the evening meal and drawing the chyle next morning before breakfast.

Feces and Urine.—During this period 2.688 gm. of feces were collected which contained 50.105 gm. of fat. The urine remained normal throughout the period.

Blood.—Red blood-corpuscles had risen in number to 2,845,000; white blood-corpuscles numbered 8,600.

Weight.—Seventy-two and one-half pounds.

PERIOD VI—JANUARY 3 TO 10

Diet.—Conference with the surgeon at this point in our experiments led to a complete change in the régime. It was suggested by Dr. Morgan that we try nutrient enemata for a period of one week. An enema consisted of one peptonized egg plus peptonized milk, quantity sufficient to make 4 ounces. These enemata were alternated with normal saline solution in 6 to 8 ounce quantities every two hours. No liquid was permitted to pass into the stomach. The mouth was rinsed out with cool water whenever the patient desired, but no water was swallowed. Under this treatment the lad suffered a good deal of discomfort through lack of nourishment, apparently, and what surprised the surgeons and others as well was the fact that apparently no liquid was collecting in the abdomen. At no time during the week did there appear to be any collection of fluid in the abdomen and at the end of that period the peritoneal cavity seemed so completely free from liquid that it was decided not to insert the trochar needle. Analysis of the food fats showed that the patient had received 96.606 gm., while only 2.970 reappeared in the rectal flushings, so that 95.637 must have been absorbed from the rectum and no portion of this was ever regained from the chyle.

Blood.—The blood during Period VI seemed progressively to become depleted until on January 9 we found the red blood-corpuscles, 2,150,000; white blood-corpuscles, 12,400. At this point the pallor of the patient became so intense that it was decided to begin the administration of Blaud's mass, which was given in 5-grain doses three times a day. Further data regarding the blood will be given in the next period.

Weight.—This had fallen to 62 pounds.

PERIOD VII—JANUARY 10 TO 15

Diet.—The complete cessation of the flow of chyle into the peritoneal cavity during the period of nutrient enemata led us to return to a general diet, especial richness in butter fats being the only distinction from the common diet. The patient was allowed to have bread and butter, coffee with cream in it, creamed potatoes, buttered toast, cream toast, rice with butter and sugar, whole milk, cream tomato soup, fruits. He was taken out of bed and allowed to exercise in a wheel chair, sitting up and wheeling himself.

Chyle.—Careful daily examination revealed no appearance of chyle in the peritoneal cavity.

Urine.—This was examined daily and continued normal.

Blood.—Under the influence of the changed conditions the blood began a gradual regeneration and on January 13 showed

red blood-corpuscles, 2,245,000; white blood-corpuscles, 13,600. By the 16th there were reds, 2,825,000; whites, 13,400. On the 18th, while the general appearance of the patient had remarkably improved, there was a very marked change in the blood—the red corpuscles had risen to 3,216,000, accompanied by a marked improvement in the patient's color; however, the white corpuscles showed a sudden rise to 22,500. On the following day there were 24,000 whites, which seemed to be the maximum, and from which they progressively went back to the normal on January 25, on which date the boy left the hospital apparently well.

RESULTS TABULATED AND DISCUSSED

TABLE 2.—SHOWING AMOUNT OF FAT IN DIET AND CHYLE

Periods	I.	II.	III.	IV.	V.
December, 1907....	14-17	18-21	22-25	26-29	30-2
	Gm.	Gm.	Gm.	Gm.	Gm.
Diet, fat	40.50	364.73	52.20	534.44	108.92
Chyle, fat	22.54	68.56	31.49	60.93	a.15.23 b. 4.29
Feces, fat	7.59	23.76	12.89	44.17	50.11
Excess	10.37	272.41	7.82	429.34	49.29

TABLE 3.—SHOWING PER CENT. FAT IN DIET AND CHYLE

Periods	I.	II.	III.	IV.	V.
December, 1907....	14-17	18-21	22-25	26-29	30-2
Diet, fat	Meager	Rich	Meager	Rich	Meager
	%	%	%	%	%
Chyle, fat	0.746	1.858	0.608	1.514	a.1.50 b.0.094
Feces, fat	0.587	3.004	1.171	2.154	1.868

Tables 2 and 3 show the principal facts derived from the study. That increased food-fat should lead to increased fat in the chyle is a result to be expected. This result is much more clearly marked in the percentages as shown in Table 3 than in the actual quantities as shown in Table 2. It is noticeable from these tables that a considerable portion of the ingested fat was lost by way of the feces.

More important, perhaps, than either of these facts is the discovery (Table 2) that there is a considerable portion of the ingested fat unaccounted for in that recovered from chyle and feces. During the period of observation there was no opportunity to strike a balance between income and outgo of fat, as the analyses for Period I were hardly completed before we were collecting material from Period V. Therefore it was not discovered until weeks later that there was a large balance unaccounted for in chyle and feces.

The first question that occurs to one in looking over these results is: What became of this excess of fat? The answer seems obvious, namely, it must have been absorbed. In Period II, the boy must have absorbed 272 gm. of fat and in Period IV he must have absorbed 429 gm. An amount of absorption not to be ignored went on even during the periods when the patient was receiving a diet meager in fat. The next question which arises is: Was the fat absorbed by way of the portal system or by way of the lacteal system? We have been taught that all of the fat is absorbed by way of the lacteal system. If all of the fat went through this system in the case in question, what were the mechanical conditions that controlled the case? Was the receptaculum chyli ruptured? Was some smaller chyle vessel ruptured? If the receptaculum chyli was ruptured, was the leakage at the point of rupture modified by intra-abdominal pressure? One can easily conceive a condition in which the accumulating chyle would bring intra-abdominal pressure up to a point where it balanced the intralacteal pressure. When this point is reached one can conceive that newly absorbed chyle would as easily pass on through the thoracic duct as out into the peritoneal cavity. I believe that this is what actually took place.

In the procedure described above as little change as possible was made in the ingested proteins during the first four periods. During these periods the percentage of protein in the chyle varied through very narrow limits, as follows: Period I, protein 1.335 per cent.; Period II, protein 1.215 per cent.; Period III, protein 1.137 per cent.; Period IV, protein 1.276 per cent.; Period V, protein 1.866 per cent. According to the original plan of procedure Period V was to have a menu rich in proteins, while Period VI was to have a menu meager in proteins. Glancing at the protocols of the periods given above, the reader will note that at the beginning of Period VI the original plan was radically departed from and the nutrient enemata were introduced; it is interesting to note, however, that during the four periods when the proteins remained as little changed as possible, the percentage of proteins present in the chyle varied within 0.1 per cent. of the average, while the percentage of proteins present in the chyle during Period V made a sudden increase amounting to over 0.6 per cent. This cannot be a simple coincidence; the increased protein of the chyle must have been caused by increased protein in the diet.

One would seem to be justified in concluding that proteins are in part absorbed through the lacteals.

Turning now to Period VI and glancing through the protocol of that period, one will note a marked change, no less surprising than gratifying, in the condition of the patient, especially with respect to his principal symptom, the leaking of chyle into the peritoneal cavity. From the hour that the patient ceased to take food and drink by way of the mouth and received all nourishment through nutrient enemata, the appearance of chyle in the peritoneal cavity ceased. If any further proof than those already given above were necessary to demonstrate that the appearance of chyle in the peritonal cavity was due to leakage from the lacteals, this sudden cessation of its appearance would furnish that proof. The internal pressure in the lacteals being removed, the edges of the ruptured vessel could fall together, come into apposition and the healing process could proceed rapidly. At the end of a week this process had proceeded so far as to hinder any subsequent leaking when the general diet by way of the mouth was resumed.

The most noticeable physical change in the patient during the sixth and seventh periods was the deterioration of the blood, the red blood-corpuscles being noticeably decreased. Note that the decrease in the red blood-corpuscles, however, preceded by about ten days the increase in the white corpuscles. These two changes in the blood were probably altogether independent of each other and due to entirely distinct causes. The depletion of the red blood-corpuscles in the latter part of the sixth period was unquestionably due to the small amount of nourishment absorbed from the rectal feedings. The introduction of the egg into these feedings was with the definite purpose of introducing a requisite amount of iron. While the egg seemed to be absorbed, the red blood-corpuscles and hemoglobin, nevertheless, were greatly decreased. From the day on which we began to administer the Blaud's mass the red blood-corpuscles and the hemoglobin began to pick up until they reached the normal within about ten days.

I account for the improvement of the patient during the time of rectal feeding on purely physiologic grounds. I believe that, inasmuch as the flow of chyle progressively decreased in amount from the third period, Nature was probably throwing out a mass of adhesions across the ruptured chyle-vessel. As soon as the receptaculum chyli was relieved of pressure there was a rapid closure

of the wound. As soon as we put the patient on hospital diet, his recovery was "by leaps and bounds."

The sudden increase of white blood-corpuscles led those in attendance to suspect a possible infection and the patient was very carefully looked over and watched for several days, but no rise of temperature or other symptoms suggesting infection appeared and the white blood-corpuscles returned progressively to the normal, which they reached before the patient left the hospital.

CONCLUSIONS

1. It is suggested that we recognize a special subclass of ascites chylosus which might properly be called "traumatic chylorrhagia," whose diagnostic characteristics would be, rapid collection of chyle, pure or tinged with blood, immediately following the injury.

2. The fat content of the chyle varies greatly with the diet; the protein varies moderately, while the sugar varies only slightly. From these facts I believe that we are justified in assuming that not only are the fats absorbed by way of the lacteals, but the proteins also are in part absorbed by way of the lacteals. With equal force it may be said that the sugar is not absorbed by the lacteals, but the trace uniformly found is that which is incident to tissue fluids generally and gets into the thoracic duct from tissue lymph-vessels.

3. I would suggest the following physiologic method of determining whether or not, in cases of traumatic chylorrhagia, all, or only a part, of the chyle is escaping:

After a fast-day give by mouth a one-day diet rich in fat; determine fat in diet, in chyle, and in feces. If that found in chyle and feces falls appreciably short of that exhibited in the diet, one may conclude that not all of the chyle is escaping. The smaller the proportion of escape, the better the prognosis.

4. In cases of traumatic chylorrhagia experience in the case of Dr. Morgan suggests nutrient enemata, and a waiting for positive indications before surgical interference is undertaken.

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THE DEPENDENCE OF NEUROLOGY ON INTERNAL MEDICINE

A PLEA FOR THE ESTABLISHMENT OF NEUROLOGIC HOSPITALS, AND OF NEUROLOGIC WARDS IN GENERAL HOSPITALS*

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The practice of establishing institutions for special research, with endowments sufficient to secure them from the motives which influence the conduct of establishments on a commercial foundation, is rapidly gaining substantial recognition in America. We have had no war indemnities applicable to scientific purposes, but fortunately we have scores of wealthy men and women who are showing themselves disposed to lay those financial foundations which must henceforth underly the upbuilding of the natural sciences. They have initiated a movement which has already done more for us than herald a coming greatness. They have stimulated interest in medical progress, both in the profession and out of it, and already practical results are at hand.

NEUROLOGY NEGLECTED

Our achievements in surgery, in medicine, in public hygiene, in the widening scope of medical education, are all products of the spirit of inquiry which is fostered in the endowed laboratory; and such laboratories are springing up everywhere. But while the land, throughout its length and breadth, is preparing, as it were, for the responsibilities of leadership, one branch of medicine has been accorded no opportunity of sharing in the general progress. This branch is neurology. There seems to have been no thought of providing for its future, and its place in America is about what it was twenty-five years ago. Neither laboratories nor hospitals are being endowed in its favor. In all America there is scarcely a general hospital with neurologic wards worthy of the name, with the exception of a few hospitals and inaccessible city almshouses in which cripples and dotards are crowded together under the care of untrained housestaffs without laboratory facilities. Magnificent endowments almost yearly further the advances in surgery, medicine, and psychiatry, but neurology is left to take care of itself. Few nurses receive special training in nervous diseases; the objective teaching of students is limited chiefly to ambulatory cases. The profession who teach them, having no hospital patients of their own, can demonstrate only such patients as are able to walk to the clinic. In the recognition of brain abscess, meningitis, acute intoxications and injuries of the nervous system, the student either goes uninstructed, or else gets his instruction from men neither particularly interested nor particularly versed in these subjects. Hospital section-teaching, the most valuable of all modern teaching methods, is practically unknown in nervous diseases. The clinical facilities of the professors of neurology are not much better than those of the students. Without wards, without laboratories, without means for the continuous daily observations of patients, the holders of these chairs cannot obtain the intimate knowledge of disease, and the stimulus to investigate it, which is necessary to keep them abreast of modern progress.

In most large cities the general hospitals appoint what is known as a consulting neurologist. This incumbent may or may not be a member of the medical board. He is admitted to the wards by invitation and on sufferance; and such advice as he gives may be acted upon or not, in accordance with the whim or acumen of the attending physician or surgeon. No house officer is accredited to him, and he can follow a case only by extreme effort, and, when all is over, he is permitted to utilize it for scientific purposes only in the event of the attending physician or surgeon not wishing to make use of it himself. He is excluded from the consecutive observation and the scientific study of the metabolic diseases which underlie so many functional nervous affections.

NEUROLOGY AS A SPECIALTY

One cannot soberly consider these facts without being confronted with two important questions: Is neurology a legitimate specialty? If it is, what must be done, not only to advance it, but to enable it to hold its place? The answer to the first question is certainly affirmative. Ever since the publication of Erichsen's book on spinal injuries, it has become every year more obvious that nervous diseases require men of special equipment, judgment and inclination to interpret them correctly. It is more special in study and practice than any of the

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

recognized subdivisions of surgery; just as special and far more extended than opthalmology or otology. So thoroughly has it been recognized as a field of activity *sui generis* that no argument on the subject seems necessary. Its individuality being granted, the next question is, Where shall we turn for successors to Duchenne, Lockhart Clarke, Romberg and hosts of other pioneers? Not to surgery surely. For though men like Horsley and Cushing have advanced neurology enormously in certain directions, their work has been and must be too circumscribed to advance neurology as a whole. Neither can we hope, in America at least, for help from internists. Out internists seem to shun these important problems, and often enough boast of their ignorance of them. The American Neurological Association has numbered not more than half a dozen internists in the past ten years. Dr. Charles L. Dana is the one man familiar to us who, in charge of a large general hospital service, has cut his name deep into neurologic history.

NEUROLOGY IN EUROPE AND IN AMERICA

In Europe the position of the neurologist is quite different from his position with us. There neurology is looked on as an integral department of internal medicine; and those who aim to gain entrance into the ranks have had not only prolonged training in internal medicine, but they evidence their continued interest by working at it in the hospitals, and teaching it in the universities. The medical clinics of Germany have been presided over by men whose greatest fame has come from their neurological contributions. Friedreich and Erb, of Heidelberg; Nothnagel and Strümpell, of Vienna; Schultze, of Bonn; von Leyden, of Berlin; Lichtheim, of Königsberg, leaders in neurology, all were, or are, directors of the medical clinics in their respective cities. And what is true of Germany is also true in a large measure for France, Great Britain and other European countries. Witness, for instance, the contributions to internal medicine and pathology of Trousseau, Charcot, Marie, Byrom Bramwell, and of Gowers, to name only a few; or if it is necessary to enumerate other writers, the contributions that have been made by Hasse, Kussmaul, Leube, Sahli, Rumpf, Brissaud, Grasset, Head, Wyllie, and other teachers of internal medicine. Not only do their systematic treatises of medicine reveal their mastery of the intricacies of neurology, but their individual discoveries must be mentioned in headlines when the history of neurology is written.

But what is to become of neuropathology in America, where neurology and internal medicine are distinct, and where practically all the laboratories and wards are controlled by men who do not investigate nervous cases and are closed to those willing and capable to work in this field?

The answer is not far to seek. Neurology must fall behind and cannot take its place in the coming American revival. The writing is already on the wall. We can claim no great achievement in the past ten years. American neurologists do not obtain the intimate experience with acute nervous diseases which belongs by right to the house physician in the Queen's Square Hospital in London, and we cannot hope, under present conditions, to produce men of accurate knowledge such as have made many a small German town famous.

American neurology is not only at a standstill, but its sphere is constantly being curtailed. The American Neurological Association this year refused to take part in the discussion on serum therapy at the Congress of American Physicians, on the ground that "it was not germane to neurology." Why not be frank about it and admit that neurologists have never had the opportunity of judging the effects of serum therapy on the nervous system? Instead of neurology having its share in the progress of the sciences concerned with bacteriology and with nutrition, the diseases it once claimed are one by one being taken from it. Exopthalmic goiter, a nervous disease if there ever was one, is more and more rare in neurologic clinics. As the neurologist has neither beds nor laboratories, the psychoses and neuroses with gastric symptoms have entirely passed from his hands and have lost their names. Under the mask of gastroptosis, mucous enteritis, and achylia, the patients are subjected for years at a time to the pernicious suggestions connected with local treatment.

A WIDER HORIZON IN NEUROLOGY

It is partly our own fault. During the formative period of our specialty a few years ago, the American neurologist prided himself on being a neuro-anatomist *par excellence*. To make cerebral localizations, to designate diseased tracts, to distinguish between organic and functional diseases constituted his chief occupation. The anatomic period has reached its zenith. To-day there is a wider horizon.

Nervous disorders and nervous phenomena are so directly dependent on and so intimately associated with derangement of metabolism, diseases of the viscera and ductless glands, to syphilis and other infections, that it is foolish to attempt to make an approximation of the pathogenesis of these symptoms unless the physician is competent to investigate and detect such pathologic states or intelligently to criticize the reports of trained men working with him. And then that great wilderness of pathology, the psychoneuroses—what opportunity is furnished us to study them intelligently and thoroughly in this country? A hurried interview in the out-patient department, where neither the environment nor the facilities favor the slightest revelation of the soul, then the patients disappear into the maelstrom of Eddyism, quackery, and the commercial sanatorium.

We are not urging a wider field for the neurologist than that of neuro-anatomist without taking into account human limitations. We recognize the time-consuming requirements of physiology, of anatomy and of special clinical investigations of the modern neurologist. We do not expect to see the neurologist, except perhaps when working at some special problem, an expert in fevers or in abdominal tumors. But we know that we are right in protesting against the narrow specialism into which he has been crowded. Unless the physician who professes to interpret nervous disorders is skilled by daily practice in making physical examinations, unless he is permitted to become familiar with the personalities of his patient through daily contact, he cannot attain that which he should attain, namely, the highest type of physician. The only way he can hope to develop such skill is in the wards of a hospital. In these wards he shall have the same facilities for investigating disease as his colleague whose inclination leads him to concentrate his clinical acumen on disorders of less noble viscera than the brain and spinal cord. There he shall have the opportunity of calling to his aid pathologist, cytologist and chemist, who shall work under his direction, and he shall avail himself of the opportunities which such service gives to study the personality or soul of his patient, without a knowledge of which therapy will always remain a barren field.

NEUROLOGIC HOSPITALS DEMANDED

Until general hospitals have neurologic wards with independent staffs, or until neurologic hospitals shall be established in every metropolitan city, we cannot hope that neurology will take the place in medical science that it deserves. We appeal to the profession to establish such services.

In New York we have organized and put into operation such a hospital, and with the hope that a brief description of its scope and organization will stimulate and encourage others, we venture to describe it briefly.

ORGANIZATION OF THE NEUROLOGICAL INSTITUTE

We arbitrarily chose three men who were responsible for the medical organization, development and direction. We readily secured a board of directors made up of men well known in business and in philanthropy—New York's first citizens. We were fortunate in finding a building adequate for our purposes, which had been constructed as a training-school for nurses and used later as a private hospital. The sum of twenty-five thousand dollars sufficed to make the necessary changes and to install the equipment for hydrotherapy, electrotherapy, Zander apparatus, electric superheated air apparatus, occupation rooms, roof-garden, clinical and chemical laboratory and autopsy room. Complete operating, sterilizing and anesthetizing rooms were already in existence. The building was subdivided into three parts—wards—with accommodations for forty patients; semi-wards, with accommodations for twenty patients, and twenty private rooms. The first floor of the building is devoted to the out-patient department and the therapeutic department. Here patients applying for relief are examined by the attending physicians and by salaried assistants working under them, and those whose symptoms require further study and interpretation are sent into the hospital, while those whose disorders can be satisfactorily treated in the various therapeutic departments are referred thither. Each of these therapeutic departments is under the immediate direction of physicians, and the treatment is administered by salaried assistants. In addition to diseases of the mind and nervous system, metabolic and nutritional disorders such as gout, rheumatism, arthritis, diabetes, etc., are received and treated. Other diseases are referred to the services elsewhere of the medical staff and the consultants.

The second and third floor of the hospital are devoted to the wards and semi-wards. The price of the beds in these wards, inclusive of everything, is $15 a week. Any member of the medical board may remit any part, or all, of this amount in individual cases, and about one-half the patients pay nothing. In the semiprivate wards, patients pay from $15 to $25 a week. The private rooms are reserved for patients of the physicians connected with the hospital. The revenue obtained from these rooms materially helps in meeting the expenses of maintenance. The sixth floor is devoted to the chemical and pathologic laboratory, the operating-room, the clinical and psychologic laboratory, and to quarters for the house staff. The laboratory is in charge of an expert chemist and microscopist who is paid a salary of $2,500 a year. The house staff consists of six physicians, three interns and three externs, all of whom are salaried. In addition to this staff, we have the assistance of special consultants in neurology, internal medicine and the various specialties, and an attending surgeon and an opthalmologist, both well known for their achievements in neurology.

At the end of the first six months of the Neurological Institute's existence nearly two thousand new patients had been examined in the out-patient department and upward of three hundred patients had been admitted into the hospital. It has been no uncommon thing to give from sixty to seventy hydriatic treatments in a day; and four massage operators, two electro-therapists and two teachers of exercise and educational movements are constantly employed. The present building, which, it was at first thought, would long be adequate to meet the demands put on it, has already been shown to be entirely inadequate. The best evidence that such a hospital was needed, and that it meets a want that was urgent, is furnished by the reception it has received.

We propose soon to establish a country branch, conducted on the sanatorium principle, to which patients can be transferred from the hospital as soon as their diseases have been adequately interpreted. In the country only is it possible to carry out all of the disciplinary measures that make for the restoration of the diseased personality, the disordered functions, and the perverted metabolism, which these patients always have.

The establishment of the hospital on a working basis has necessitated attention to so many practical details that as yet we have been unable to plan the scope and equipment of the experimental and pathologic departments. These will by no means be forgotten, as we have from the outset regarded them as the important features of the institute.

THE STATE CARE OF THE INEBRIATE*

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Although drunkenness is generally considered a misdemeanor, its association with criminality and criminal procedure has given the public the impression that the drunkard, if not a criminal in a legal sense, is so closely allied to these delinquents that the measures applicable for the control of the criminal can be consistently used in the management of the inebriate. The impracticability of such methods is recognized by those familiar with the varied types of inebriety.

Credit must be given to the judiciary and particularly to the various probation commissions for the heroic efforts which they have made to formulate some satisfactory method for dealing with the drunkard. They have recognized that the drunkard has an individuality, but owing to the diversities of the types and lack of facilities for studying these cases they frankly acknowledge their helplessness and are ready and willing to cooperate with the medical profession in any reasonable way. Massachusetts with its 90,000 arrests for drunkenness in 1909 is certainly a strong appeal for the inauguration of some plan which will individualize, differentiate and care for the habitual or pathologic inebriate.

INEBRIETY PATHOLOGIC—CLASSES

The term pathologic as applied to inebriety is expressive and eminently practical. For clinical purposes pathologic inebriates can be conveniently divided into three classes. The first group comprises men or women originally of normal health but who, through overwork, emotional stress and business reverses, have lowered

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

their power of resistance. With frequent indulgence in stimulants the patient becomes powerless to discontinue his habit. This is considered to be the most curable class of pathologic inebriates. A second group considers the periodical drunkard or dipsomaniac, people ordinarily temperate, or even abstinent, who at certain periods yield to an obsession of stimulation. The third group comprises the defectives and degenerates among drunkards. Alcoholism of the patient or of his parents may in some of these cases have brought on directly or indirectly the impaired mental and physical condition, but it is equally true in other cases that imbecility, insanity and other forms of degeneracy have preceded and have been responsible for the excessive use of alcohol. The physicians in charge of the Massachusetts correctional institutions are inclined to assert that the large majority of habitual drunkards in their care, are men of less than normal mentality.

SUMMARY OF EIGHT HUNDRED CASES

Institutional statistics have proved that a predisposing cause can be almost invariably found in the pathologic inebriate. The clinical study of approximately eight hundred cases of inebriety at the Foxborough State Hospital during the past two years is my justification for the following summary. These conclusions may be considered as an attempt to establish a clinical entity for inebriety.

1. Inebriety is an expression of nervous weakness or nervous instability; used in its simplest sense it could be called a psycho-neurosis, many cases showing symptoms which are found in neuresthenic states and allied conditions. Addiction to alcohol is a symptom of an unstable nervous system and the contrary view expressed by the laity is not justified by clinical observation or experience.

2. The exciting causes of inebriety are of a physical and psychic origin. Given a neurotic subject crises may be precipitated by any marked departure from the ordinary routine (psychic) or by any disturbance of organic nature (physical).

3. Inebriety is prone to develop as a frank case at the critical epochs of life, namely, during pubescence, adolescence or involution. Developing during involution it is generally the effort of an individual to maintain his productive power by recourse to artificial stimulation. The frequent inception of inebriety at these periods suggests an analogy to the psychoneuroses.

4. Inebriety being an expression of neuropathy or psychopathy, may be preceded or accompanied by a multiform nervous syndrome; thus each case is essentially different.

5. The heredity element in inebriety is considerable and is undoubtedly a powerful predisposing cause. A history of decided intemperance in the parents existed in over 40 per cent. of our cases, while 15 per cent. gave a history of defective ancestory, insanity, neuropathy, drug addiction or tuberculosis being present on the maternal or paternal side.

6. Approximately 5 per cent. of our cases showed preexistent mental symptoms which could be differentiated. Some of these were distinct cases of psychasthenia; others were of the milder forms of manic depressive insanity.

We feel warranted in corroborating the statement made by others that an inherited neurotic or psychic tendency is present in a considerable number of inebriates. Many of these cases admit vagaries of conduct and peculiarities during pubescence and adolescence, showing clearly neurotic or psychopathic conditions which have antedated the alcoholic manifestation. We venture to say that our future study will support these conclusions.

INDIVIDUALIZATION IN TREATMENT

The necessity for individualization and differentiation in cases of drunkenness is made more evident if we inaugurate any method of treatment. It seems unnecessary to say that such differentiation should be controlled and directed by the medical profession. The successful treatment of inebriety depends on the accurate discrimination and individual consideration of cases. These conditions can be more satisfactorily brought about in institutions under state supervision and control.

The defects in existing methods of care of the drunkard, which methods are in great part criminal, are recognized in Massachusetts. Her experience may be justly considered to be similar to that of other states. While release, suspended sentence, probation and payment of fine while on probation, is an ideal method in some cases, it can be said without fear of contradiction that imprisonment for drunkenness and non-payment of fine are futile as a method of reform and useless as a means of protecting the public. The large number of recidivists in alcoholism bears testimony to this assertion.

The habitual drunkard is omnipresent and resistive to the ordinary methods of treatment of reformatories. R. W. Brenthwaite, in the report of the inspector, under the inebriate's acts, 1910, expresses this clearly when he says that owing to educational measures and popular agitation, there has been a considerable and progressive improvement in the general drinking habit of the nation. The drunkenness that has been rendered less common in England is the occasional vicious excess of the man who can remain sober if he will. The large majority of the population, owing to educational measures, are now moderate drinkers who rarely get drunk, a case which is apt to engender a feeling of satisfaction until we look below the surface and observe the army of habitual drunkards which may be properly termed pathologic inebriates. This also emphasizes what I believe every medical man can verify, that it is by no means clear that any real advance has been made toward the suppression of habitual drunkenness.

The increasing prevalency of drunkenness is responsible for the concerted movement for the care and treatment of inebriates in England some thirty years ago. They have devoted time and money to the elucidation of this problem. At the present time there is under consideration progressive legislation which will increase the usefulness of their methods. Australia, Germany, Switzerland, Hungary and Denmark have laws which provide for the care and treatment of the inebriate. Recent correspondence with these countries shows that they are making steady progress and that the authorities are keenly alive to the fact that state and municipal care of the inebriate is not only a reform measure but is of decided economic value.

The need of state care of the inebriate was almost simultaneously recognized in the United States. Massachusetts in 1893 established a hospital exclusively for the treatment of the inebriate. Iowa and Minnesota have established similar institutions and in many states provision has been made for the compulsory commitment of inebriates to state institutions. During the past year many states have appointed committees for the investigation of drunkenness and with power to

advise on conditions and remedies. Maryland, Michigan, Connecticut, Ohio, Indiana, New Jersey and New York are actively concerned in such investigation. Pennsylvania is engaged in this reform and undoubtedly will eventually succeed in carrying out the purposes of the bill so actively championed by her medical profession. New York City has recently passed a bill which provides for the care and treatment of the inebriate; the proposed scheme is perhaps the most elaborate which has thus far been advanced and its inauguration will be looked for with interest. New Jersey, although meeting with reverses in her attempt to secure state care, is hopeful of success and has been conducting a good publicity campaign.

CONSIDERATIONS OF CURE

When we consider the permanency of benefit from institutional treatment we must remember that inebriety is a chronic disease, and bearing in mind our conception of inebriety, namely, that it is a state of nervous weakness plus a habit in which the patient has a graded responsibility, we can readily appreciate that the word "cure" must be used relatively and that the condition which we call inebriety is subject to the same inconsistencies which we find in many cases of functional nervous disorder. When considering the benefit which may result from institutional treatment it is necessary to consider the type of inebriety, the time of abstinence, and to compare the man's present mode of living with his daily habits prior to his admission to the hospital. This plan has been carried out when studying those discharged from the Foxborough State Hospital. I am not prepared to give statistics on"cure" but I can conscientiously say that a large percentage of cases have been permanently benefited by treatment.

STATE HOSPITAL TREATMENT

A state hospital should care exclusively for the hopeful cases and these should be carefully differentiated from cases not likely to be benefited by hospital treatment. The following conditions regarding state hospital treatment of inebriety are based on our experience during the past two years.

1. Individual consideration of each case is the only rational and effective mode of treatment.

2. Abstention from alcohol is not sufficient for cure; it is required that the patient cooperate in normal measures instituted for his betterment and the ultimate success of hospital treatment depends on this sustained interest.

Medical after-care is necessary to obtain the maximum degree of success. This medical after-care to be of any benefit must be practiced with the consent and cooperation of the patient.

A state hospital for the treatment of inebriety should be considered an educational center; it should have adequate equipment for treatment of such cases, and should have facilities for segregation and individual treatment of the diverse types.

The word "hospital" when used in connection with inebriety is considered to be synonymous with "cure" or "improvement." Used in this sense it can be emphatically said that, with modern methods, hospital treatment of inebriety by the state is of economic value.

IMPROVEMENTS IN THE LAWS

The experience of Massachusetts during the past five years has revealed failures in the existing conditions which has served as a basis for pending legislation.

The trustees of the Foxborough State Hospital have presented a report to the general court, now sitting, which was submitted in accordance with legislative resolve approved during 1909. This legislative document has been presented with accompanying recommendations and a bill asking for an appropriation for the purchase of a site for the establishment of a new institution has been introduced. The report involved the careful study of the treatment of inebriety in this country and abroad; it considers in detail drunkenness in Massachusetts, its conditions and remedies. The following is a summary of the recommendations:

The Board of Trustees of the Foxborough State Hospital in their forthcoming special report, prepared in accordance with Chapter 111 of the Acts and Resolves of 1909, offer a statistical study of drunkenness in Massachusetts with reference to the cost of inebriety to the commonwealth. In place of the present system of fine or sentence to prison for the frequent offender, is substituted a plan whereby the non-criminal drunkard may be completely segregated from the other offenders of our penal system and the curable cases among them given every opportunity for cure. The plan further includes provision for the segregation and cure of female drunkards who have hitherto been subjected to custodial treatment only.

To this end the trustees of the Foxborough State Hospital have recommended to the Legislature of the Commonwealth the following:

1. The establishment of a new state hospital colony for inebriates to receive:

A—patients who come voluntarily (Acts of 1906, Chap. 316).

B—cases committed under Sec. 59 of R. L., Chap. 87.

C—young habitual drunkards placed on probation by the court on condition that they spend their probation period at the hospital.

D—suitable cases transferred on parole from the detention colony.

2. The establishment of a detention colony for incurable non-criminal inebriates, to be situated in a town neighboring to the hospital. To receive:

A—Incurable cases committed as under R. L., Chap. 87,

B—confirmed drunkards on indeterminate sentence.

3. The establishment of a hospital colony for non-criminal female inebriates to receive:

A—voluntary cases,

B—cases committed under R. L., Chap. 87,

C—cases sentenced from the courts.

A part of the institution might be devoted to the incurables of Class C until the state had sufficient experience with provision for female inebriates to ascertain the need of a separate colony.

These three institutions for purposes of facilitation of transfer and for uniform management should be under the same board of trustees and the same medical direction.

This system as above outlined provides for all types of drunkards beyond the release and probation stages, except for the drunkard with criminal taint, who, together with refractory cases of the detention colony, should be sent to the state farm.

The present Foxborough Hospital is inadequate for this extended purpose, because of general lack of equipment and facilities. Some of the most obvious lacks in view of constructive treatment are:

1. Insufficient land for agricultural development.
2. Insufficient plant for industrial training, etc.
3. No opportunity for segregation of diverse cases.

The advantages of proposed system are:

1. A large per cent. of the 20,777 persons sentenced in Massachusetts in 1909 for drunkenness are curable. By this system such cases could be ascertained and the patients cured.

2. The utter waste of state resources involved in the sending of 9,958 cases in 1908 to prison for a month or less on account of non-payment of fine could be obviated. Some of

these men could be cured permanently. The others could be kept apart from criminals and put to work that would largely pay the cost of their maintenance—a cost which today, including expense several times per year per individual drunkard for arrest, trial, transportation and detention, is very serious.

3. The woman drunkard, who is now forced into houses of correction or state reformatories with thieves and prostitutes, could have treatment for cure whenever curable, and in any case could be kept from the street, on the one hand, and from association with criminals on the other.

The adoption of this plan will eventually lessen materially the cost to the state for the care of the inebriate. The experience of Massachusetts in caring for drunkenness is undoubtedly paralleled in the majority of states. The direct cost to the Commonwealth of Massachusetts in 1908 for maintenance in prison of such inebriates as were sentenced on the charge of drunkenness was over $500,000. When we include the cost of arrest and trial, and particularly the cost to the public and private charities for maintenance of families, it is safe to assume that these additional expenditures place the direct annual cost of drunkenness to the city and state at a point far beyond $1,000,000. This vast sum of money expended for arrests, arraignment and imprisonment is certainly an appeal for better discrimination and a more rational mode of procedure in taking care of these people.

ABSTRACT OF DISCUSSION

DR. ALFRED SAENGER, Hamburg: I am glad to hear that in New York there is now a neurologic institute. Erb was the man who said that it was necessary to found such neurologic institutions. In Germany we do not have them, but in Hamburg we have neurologic wards in the two large general hospitals. In the one hospital at Eppendorf there is my colleague, Dr. Nonne, and in the other, the Hospital of St. George, I have a number of beds, and a so-called polyclinic for outside patients.

Dr. Collins states that the internists have the lead in neurology in Germany. That was so formerly, but later on we have had neurologic specialists such as Oppenheim and others, who are not internists; and it seems to be true that neurology is really a department by itself; and Erb said, at the last association meeting held at Vienna, that the time would soon come when there would be founded in Germany chairs of neurology, where formerly chairs were instituted for the internal physician exclusively. Three years ago Oppenheim, Bruns, v. Frankl-Hochwart, Edinger, v. Monakow, the late Moebius and myself established the Association of German Neurologists, and we had the pleasure at our meeting last October at Vienna of seeing several American neurologists.

DR. CHARLES L. DANA, New York: The work accomplished in the establishment of a neurologic institute has been most praiseworthy and satisfactory and the importance of such an institution cannot be exaggerated. We have just had enacted a law which enables New York City to undertake a certain experiment in the care of inebriates, and on the statements of Dr. Neff and the success of such work as he has done depends largely the question of whether we are going to succeed or not. The New York law is not mandatory, and we have to go before the board of estimate and apportionment and ask them to give us money to carry it out; and if Dr. Neff's results and the experience of others in this work show that it is of economic advantage we can get the money. It is just a question of economics. In New York we have a bad history in so far as practical care of the inebriate by state institutions is concerned. This failure of the state institutions, several years ago, however, was due to politics and defective laws and administration; it is a *sine qua non* in the care of the inebriates that the institution be taken away from politics and that it be under the control of an intelligent board of managers. If any city or state cannot begin that way it might as well not begin at all. In New York we are trying to inaugurate the farm colony plan as applied to the inebriate, and instead of having the drunken man punished as a criminal we propose for the first and second offenses to let him go on probation, and then on the third offense to send him to the hospital, and then to a farm, where he is committed on a somewhat indeterminate sentence.

The whole question is one which should appeal to neurologists and interest them.

DR. T. D. CROTHERS, Hartford, Conn.: It is a source of great satisfaction to have this subject come into prominence again. When the asylum at Binghamton, N. Y., the first ever organized in the world for the treatment of inebriates, opened in 1863, it excited intense opposition. Medical men and laymen called it a quack effort, denounced the theory of the disease of inebriety and its defenders as unworthy of notice. Its early presidents, the late Dr. Valentine Mott and the late Dr. Willard Potter, were condemned for having anything to do with the work. Boss Tweed was a trustee at one time, and the institution went into the hands of politicians, who after sixteen years of troubled experience turned it over to an insane asylum. The questions which Dr. Neff has brought out were discussed at that time, with equal clearness, but they were too far ahead of public opinion to attract any attention. My early experience began as an assistant physician in that institution in 1875. I assisted in making the first statistical study of the history of 1,100 patients who had been under treatment at the institution nine years before. The returns showed that 60 per cent. had continued sober and temperate up to that time. These statistics were condemned as fictions, and yet after the long lapse of time they have been confirmed, and were really the first scientific studies ever made. The curability of such patients was established, but there are people to-day who doubt it and interpose obstacles and criticism. Massachusetts is facing the same problem that came up in New York fifty years ago. I have for over a quarter of a century discussed these very questions in this Section in many papers. Now a new generation is coming on and their practical recognition is assured. The best statistics show that from 20 to 40 per cent. of 5,000 new cases of insanity registered last year in New York City are due directly and indirectly to alcohol, and this cause of all others must come into the field of medical study and critical examination.

It will be of interest that the government has published the transactions of our Society for the Study of Alcohol and other Drug Narcotics, as Senate Document 48, a book of 135 pages, containing thirty-two articles on the economic, scientific, hygienic and medical sides of the great alcoholic problem, which is the best collection of modern literature published on this subject. This is the first time the government has ever published the transactions of any medical society and indicates the profound interest in the subject. The document is sent free to all who ask their senators at Washington for it.

DR. F. P. NORBURY, Kankakee, Ill.: The organization of the Psychopathic Service of Illinois follows the line suggested by Dr. Collins. The institutions of Illinois, including the Psychopathic Institute, located on the grounds of the Kankakee State Hospital, are on a civil service basis. The organization of the service is educational; the young men are encouraged to enter the service as interns, then after a year's experience, to take the promotional examination for the grade of assistant physician; then after a service of a few years, they are eligible for promotional examination to the grade of physician; then later to the grade of assistant superintendent.

The Psychopathic Institute has a staff as follows: Director, psychologist, clinical pathologist and chemist. The work of instruction embraces the methods of clinical psychiatry and neurology, approached not only from the standpoint of psychology, but of internal medicine as well (a training in diagnostic methods of internal medicine), and consideration of advanced methods of treatment, including bedside studies suggested by Dr. Collins. To insure recognition of the educational values of such a training and its appreciation by the people whom we serve, we must have the cooperation of the medical profession. We of the west are hopeful of the con-

tinued advancement of clinical psychiatry, inaugurated by Michigan, encouraged by Indiana, Illinois has enlisted for the full values which may accrue to our profession and those whom we serve, in this education work.

Here in Missouri, under the leadership of Bliss, a similar campaign has been inaugurated, which we all hope will come to fruition, thus adding to the promising future of clinical psychiatry in the west, based wholly on a strictly professional and educational basis.

DR. FRANK R. FRY, St. Louis: We should show all the enthusiasm over this matter of legislation concerning inebriates that it is practically entitled to, but not more. Dr. Dana sounded the right note when he said that we should watch closely the practical workings of legislative attempts, and that future attempts should be based on statistics, if they will help us, or on other considerations of what has been attempted in this line.

We ought to be careful of our statements, action and recommendations, because they will be accepted as somewhat authoritative. For instance, one of the speakers on the floor just now said that certain statistics showed that a certain proportion of insanity was due to alcohol—20, 30 or 40 per cent. of cases. Now, I do not believe that there is any statistical way of proving that thing; and therefore, we ought not to say so.

As Dr. Crothers and Dr. Dana have said, attempts at legislation in this direction began many years ago, and they were failures; it is very demoralizing to attempt to do something of this kind and fail.

DR. HUGH T. PATRICK, Chicago: I am sure we are all enormously indebted to Dr. Collins and his colleagues for making this dream of a neurologic institute come true, because a dream which has come true is an enormous lever with which to pry loose the necessary funds to make more dreams come true. A demonstration beats a theory all to pieces. And I wish to say just a word of encouragement to this pessimistic Dr. Collins, for there are even now schools in which the ward walks and bedside section work are not unknown. We have them out where we live. I am bound to say that our material is not always adequate, but we have made a start.

We would have more neurologic services, pure and simple, if the neurologists were a little more aggressive. The truth is, we are too considerate of the feelings of the internists. I think that every neurologist ought to be willing to say right out in meeting that he can diagnosticate and treat a case of apoplexy or tabes or any other nervous disease better than an internist can; that he can better demonstrate it to a class; that he can talk about it better; that he can instruct the student more effectively than any internist on the faculty. If the neurologist cannot do this he ought not to be on the faculty at all. In Cook County Hospital, our largest city hospital, we now have a real neurologic service with neurologists on the staff who have their own patients and the entire control of them, also the control of the post-mortem material and can use it fully and without restrictions. They have their allotted interns as well. We have not yet our patients segregated in separate wards, as they should be; but after all, segregation is not an unmixed benefit. When the cases are mixed in the wards, the internists are apt to see them and the neurologist is apt now and then to see a case of the internist. If we neurologists did better and more fundamental work, according to our opportunities, then we would soon have more. In my experience the internists have always shown themselves not only ready for but anxious to have the assistance of any neurologists who were willing to sit down and spend the necessary time with them; and there's the rub. One of the great advantages that Dr. Collins has in his new institute is the paid assistant. Our work is such a time-devourer that unless the best men, the thinkers, the men with ideas, can have assistants who shall not be asked to spend thousands of hours for nothing, we cannot make the sort of advancement which we should make and we shall be a long time in arriving at such a wonderful organization as Dr. Saenger and Dr. Nonne have in Hamburg.

DR. HALDOR SNEVE, St. Paul: I have to take issue with Dr. Neff and Dr. Crothers about inebriety being a disease. I think that as long as we maintain that inebriety is a disease we are keeping back the hands of the clock that marks progress in the treatment of this condition.

I would make three classes of inebriates, and I would put the vast majority, say three-fifths of all inebriates, in the class of inebriates from social habit. Inebriety is a habit seldom acquired in middle or old age, but most frequently in youth, from bad associations. To see where inebriates are trained, all one has to do is to go into the slums and saloons and clubs and see there the young men.

The second class of inebriety is the neurotic type. I do not believe that the neurasthenic or neurotic inebriate, or the neurotic of any kind is a born neurotic; I think he has acquired the neuroses. I do not believe that we are born with neurasthenia, hysteria, or any of these things; we acquire every one of them. We have an immense number of neurotics in our society; every family has neurotics, and no statistics on heredity will help us very much on this point. But the neurotic will become a morphino-maniac, a cocain fiend, or "slop-over" in some way.

The third class is that of periodic drinker. If there is anything in the mental condition or disposition which makes an inebriate it must be in the dipsomaniac so-called, who goes on sprees at intervals, and the rest of the time is a good, upright citizen. If heredity played a preponderating rôle in inebriety, most people would be inebriates, women as well as men, because our grandfathers and great-grandfathers, and great-great-grandfathers before them were all drunkards practically—at any rate nearly all heavy drinkers. The statistics that have been piled up, especially in France, about the influence of alcohol on the production of the inebriate, and the criminal, and pauper, and other departures from the normal, I think are absolutely misleading. Why, in the rural districts in Europe, at the weddings and other feasts everybody got drunk, and especially the groom, and the first child might frequently be conceived while its parents were in a drunken state. We believed for years and years that if the parents were drunk at the time of conception the child would be born a drunkard, or a hysterical lunatic or defective of some kind. I do not believe it. Does anybody contend that a taste for tobacco is hereditary?

In Minnesota we are building an Inebriate Farm, believing that drunkenness is a bad habit. Somebody wished to know how to get money from the state to build an institution of this kind. We drew up a bill and went to the Board of Control of Minnesota with it; and we inserted a provision that the hospital was to be built and maintained by a 2 per cent. tax on all saloon licenses. A legislative appropriation will be delayed for years and years; all one has to do is to propose to take a tax from the liquor traffic which produces these inebriates.

DR. HERMAN H. HOPPE, Cincinnati: Every neurologist should go home with the firm determination to try to establish in his native city some neurologic service in the city hospitals. We have had in Cincinnati neurologic service for ten years in city hospitals, a separate ward for the males, and part of a ward for the female neurologic patients. I do not believe that the standing of neurologists will ever be on a firm basis until they maintain that they are, as Dr. Patrick says, more capable of making neurologic diagnoses and taking care of neurologic cases than the internist who calls them in for consultation. When Dr. Collins was in Cincinnati a few days ago, I showed him two cases of obscure family paralysis which no neurologist could diagnose by going into a hospital on neurologic service and giving fifteen minutes to this case. They would require continued study for hours and perhaps days and weeks before a definite opinion could be had which would be worth anything. Being merely a consultant will not give one the standing in the hospital or perhaps the opportunity or the desire to go back and study these cases as they should be studied.

Our system is as follows: If a man on another service wishes a neurologic consultation, he makes a written application for it, and then the case is either transferred to the neurologic service, or it remains a joint case until disposed of either by diagnosis or by some operative treatment, if it should happen to be an

operative case; and I believe that this is the only satisfactory method by means of which neurology can be practiced in cities where there are general hospitals, and the only satisfactory practice which will give the neurologic specialist the standing to which his past and present work entitles him.

DR. JOSEPH COLLINS, New York: My contentions briefly are that neurology is an integral part of internal medicine, and that the only way to be a neurologist is to have it a specialty, founded on internal medicine. It would be impossible for me to practice neurology without being an internist; and therefore, I have had for fifteen years, and hope to have until I retire, a service in a large general medical hospital. I appreciate that in certain parts of the country that does not exist, and that a neurologist in certain parts of the country is a man who treats neurasthenia only, and in other parts is a man who treats neurasthenia and mental disorders.

I am familiar with city hospitals, such as the Cook County Hospital and the Cincinnati General Hospital, because I have been for eighteen years an attending physician to the New York City Hospital, which is very similar. Such hospitals do not get the class of cases in neurology with which we are taken up in private practice. It is no longer a large part of our work to diagnosticate tabes or syringomyelia; our work is centered chiefly on the consideration of and the effort to effect cures in the so-called borderland cases of neuropsychosis, and cases in which it cannot be determined whether there is an organic disease or a metabolic condition. They come only to such hospitals as the Presbyterian Hospital and St. Luke's in New York, and other hospitals similar to those in your own cities that receive acute cases. In those hospitals in New York, Philadelphia and Boston, the cities with which I am familiar, there is no neurologist who has any welcome or right save as a consultant. There is no neurologist connected with any such institution who has the privilege of going into these hospitals except on special invitation, and there he is expected to deliver an *ex cathedra* opinion, not based on an adequate history, but merely on a short examination. In reality he is not competent to deliver such an opinion within a month or within two or three months; and he should be permitted to have the opportunity to study the case in order that discredit should not come to his diagnostic acumen.

I am not pleading that neurology be given up as a specialty. I am maintaining that its progress has ceased, because the internist has not looked on it as a part of medicine with which he should make himself familiar; and on the other hand, he has attempted to overlook neurologists by keeping them out of hospitals to which they are entitled to go. The only way left is to insist on the establishment and development of hospitals for nervous diseases, and on having neurologic wards in general hospitals for the treatment of acute diseases.

DR. L. VERNON BRIGGS, Boston: In regard to the physiologic work in the hospitals in Boston I have felt for a long time that the work of neurologists and alienists should be separate. I have been in charge of a mental clinic twelve years in Boston alongside of a nervous clinic; we are entirely separate; and the nervous and mental clinics in the London hospital are separated. They treat 1,000 patients a day. It is not so in most of the hospitals; the nervous and mental cases are treated together or by the same physicians.

In regard to what has been said of the Boston hospitals by Dr. Collins I take exception, in that Dr. James J. Putnam has this last year among his friends secured a fund for the establishment of certain beds for neurologic patients in the Massachusetts General Hospital. These were placed entirely under his control. Patients to be sent by the neurologic department to those beds can remain there as long as the physicians want them to. Following the Massachusetts General Hospital the neurologists of the Boston City Hospital, through Dr. Prince mainly, have persuaded the trustees to set aside twenty beds for their clinic. These are entirely devoted to nervous and mildly insane patients.

DR. IRWIN H. NEFF, Foxborough, Mass.: I think that the discussion on inebriety has proved that there is a lack of uniformity of opinion in the medical profession on this subject. But it makes little difference whether we consider it a disease in a special or general sense, or whether we consider it purely a habit. My opinion is that it is a habit engrafted on a nervous condition, but, be that as it may, I cannot help but emphasize that the need of state care for the inebriate is as great as that of caring for the insane. It is only within the past twenty years that the medical profession has taken up the question of modern psychiatry; any advance made in psychiatry during the twenty years has been wholly due to the interest taken in it by the medical profession, and I want to appeal to each member of the Section to work for state care of the inebriate. I think this should be considered by each member of the Section from a clinical, sentimental and economic point of view.

SERUM TREATMENT OF HEMORRHAGIC DISEASE OF THE NEW-BORN

WITH REPORT OF THREE CASES

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The internal method of the treatment of hemorrhage has received its most successful presentation from P. E. Weil's report of his results with serum in 1905,[1] and from his subsequent articles. He demonstrated that in hemophilia oftentimes the slow coagulation of blood does not result from an anticoagulating ferment, but is due to a lack of, or at least a modification of, certain substances in the blood, as the fibrin ferment. This was shown by him *in vitro;* first, on the addition to freshly-drawn blood of a small amount of hemophilic serum, the serum did not in the least retard the clotting of the blood, as proved by controls; and secondly, on the addition to freshly drawn hemophilic blood of a small amount of fresh serum from normal blood, the serum caused the hemophilic blood to clot as rapidly as and in a similar manner to normal blood, thus proving that its non-coagulability is due to a lack of some substance which normal serum supplies. Weil[2] writes that the injection of fresh blood-serum directly into the circulation or subcutaneously introduces the necessary coagulating ferments and in all probability helps the system as well to produce such ferments on its own account. The serum of man, the rabbit, horse and cattle has been found efficacious, although *in vitro* the action of human serum is more evident in correcting the disorder.

Labbé[3] and Wirth,[4] after reviewing the literature on the various methods of internal hemostasis, are of the same opinion as to the disappointing results obtained after using calcium, gelatin, ovarian and other organ therapy, and are agreed that far more success has been attained with the subcutaneous and intravenous injection of fresh serum. The indications for this form of treatment are especially marked in all cases of hemorrhage due to a lowered coagulating power of the blood, though useful and well worthy of trial in all other forms of hemorrhage.

The hemorrhagic disease of the new-born is a condition in which this method of hemostasis is especially applicable. This condition is practically confined to the first ten days of life and is self-limited. It occurred in Shukowsky's[5] experience twenty-nine times in 30,000 cases, approximately once in a thousand births. The most common sources of severe hemorrhage are the gastro-intestinal tract, umbilicus, mouth and nose, ecchymoses of the skin and combinations of these.

1. Presse méd., October, 1905, No. 84.
2. Weil: Internat. Clin., 1907, Series 17, iv, 28.
3. Rev. de méd., 1908, No. 2, xxviii.
4. Centralbl. f. Grenzgeb. d. Med. u. Chir., 1909, xii, No. 7.
5. Arch. f. Kinderh., 1907, xlv, Nos. 5-6.

Townsend[6] in 609 cases collected from different writers on the subject reports a mortality of 79 per cent., and in his own particular report of 32 cases a mortality of 78 per cent., although some three years later his own reported cases[7] amounted to 50, with a mortality reduced to 62 per cent. Hemorrhagic disease of the new-born can be differentiated from true hereditary hemophilia, in that the infants affected are nearly as often females as males; that those that bleed in the first few days of life, if they recover, rarely manifest any such tendency later, and, in addition, true hemophilia usually does not manifest itself before the end of the first year. True hereditary hemophilia is a rare cause of uncontrollable hemorrhage in the new-born, Larrabee[8] finding but thirty-seven cases in the literature. Therefore it is important that hemorrhagic disease of the new-born should be carefully differentiated from hemophilia. Both Townsend and Larrabee particularly emphasize the fact that hemorrhages in the early days of life are due to a cause that is but temporary, so that no effort should be spared to save the infant, since if it survives a few days there is every probability of continued health.

The etiologic factor has been variously attributed by different writers to a weak condition of the child, difficult labor with trauma to the child, deficient capillary walls, difficulty in establishing pulmonary circulation at birth, infection and syphilis. The disease is present so often in the absence of any of these factors that some other general underlying cause must be sought. The lack or modification in some manner of the fibrin ferment, as in Weil's explanation of hemophilia, apparently is more often a common factor and the possible cause of the disease.

CASE REPORTS

CASE 1.—M. M., a female infant, born at full term, of healthy parents, seen in company with Dr. L. C. Miller. No history of hemophilia in either family. Mother's first pregnancy; normal labor; head presentation; position, left occipito anterior; second stage, two hours. At birth the child breathed immediately; weighed 7 pounds 4 ounces; healthy appearing. Cord ligated early. Baby nursed when thirty-six hours old. At the forty-eighth hour, slight amount of blood in stool, then vomited blood-tinged mucus. At the fifty-fifth hour, a large tarry stool. At the sixtieth hour, vomited partially digested blood. Then every hour the infant began to vomit considerable bright blood, and also to pass it with the stools, which came nearly as frequently. The child now began to look exsanguinated, to refuse nourishment and to cry weakly. At the sixty-fifth hour, slight hemorrhage was noticed at base of the cord, which grew in size, so that the gauze pads became saturated. When seen about the seventy-fourth hour, the child was apparently moribund. Calcium lactate internally and epinephrin locally to umbilicus had been of no avail. The hemorrhage continuing unabated, fresh rabbit-serum (5 c.c.) was administered subcutaneously. The hemorrhage from the base of the cord ceased almost immediately. The child vomited only once thereafter, and that nine hours later; this was only a slight amount of pinkish tinged mucus. Quantity of blood in stools diminished almost at once, but not until the fifth day were they free from meconium or tarry appearing material. Injection of five c.c. of the serum was repeated twelve hours after the first dose, although there was no fresh hemorrhage to indicate it. Cord dropped off on the fifth day; no hemorrhage from base; no jaundice; no after-effects from the serum were manifested. The baby made a rapid recovery; at fourteen weeks, breast-fed, was strong, healthy and weighed 13 pounds and 4 ounces, a gain over birth weight of 6 pounds.

CASE 2.—B. D., a male infant, born at full term, seen in company with Dr. J. M. W. Farnham. Family history on both sides negative, good; no hemophilia. Mother's second pregnancy, and normal; the first child healthy, 3 years of age. Head presentation; position, left occipito-anterior. Labor of five and one-half hours' duration. Birth-weight was 8 pounds, 12 ounces. Strong cry at once. Cord ligated early. Baby seemed normal in every respect. At the thirty-eighth hour, slight bright red blood-tinge on the napkin at the margin of a large stool of meconium. Then about every hour for the next nine the bowels moved with more and more blood in each stool, the blood amounting in aggregate apparently to several ounces. When seen at this time, the forty-seventh hour after birth, the baby's general condition was still fair, but the mucous membranes were markedly pale, and the infant said to be much weaker than at birth. Fresh rabbit-serum (5 c.c.) injected subcutaneously. The next two stools, one hour apart, contained only a small trace of bright red blood, and after that only tarry meconium. On the sixth day the weight was but 7 pounds, a loss from birth-weight of 28 ounces; in good condition otherwise. Cord did not separate until the twelfth day; no hemorrhage; no jaundice; no after-effects from serum noted. Baby was fed on modified milk; six weeks after birth the weight was 8 pounds and 12 ounces, a gain of 28 ounces in thirty-six days.

CASE 3.—B. L. This case is reported through the kindness of Dr. F. W. Carv, from his service at the Worcester City Hospital, coming under the direct charge of Dr. C. G. Lane, house obstetrician. B. L., a male infant, born at full term. Family history negative; good as far as obtained. Mother 35 years of age; second pregnancy; first labor had been three years previously, and difficult. Head presentation; position, left occipito-anterior. After a long first stage, head still unengaged, because of its large size and the mother's slightly justo-minor pelvis; under ether an internal podalic version was performed, arms became extended and brought down with difficulty; head delivered after much traction. Baby was resuscitated with difficulty; general condition rather poor. Weight, 8 pounds and 4 ounces. Double brachial paralysis. On the second day a small amount of fresh blood was noticed in the stool. On the third day a swelling appeared on the right cheek, which increased in size, becoming dark purple in color and tense, causing the mouth to be held open and closing the right eye. There was marked difficulty in breathing through the nose, because of hemorrhage within. Blood trickled from the nose almost constantly for the fourth and fifth days; also a smaller quantity flowed from the mouth, but it was a question whether or not any was really vomited. There were two or three stools with fresh bright blood and a number with dark blood, as if from a source higher up in the alimentary canal. Calcium lactate had no effect on the hemorrhage. By the end of the fifth day the baby was moribund. Fresh rabbit-serum (5 c.c.) was then administered subcutaneously. The hemorrhages ceased almost at once; only twice in the next few hours was the crib even stained with a small show of blood from the nose. The stools were dark, tarry for three more days, gradually then changing to yellow. The hematoma of the face decreased slowly in size for two days; later rapidly. The baby had a temperature of 101 F. at the onset of the hemorrhage, but it was not elevated again thereafter; no jaundice; no after-effects from the serum. The baby throve, and at four months was large for its age, and the paralysis had cleared up.

SUMMARY

Two of these patients, the first and third, were apparently moribund when the serum was administered. The second case had not progressed so far as the other two, but is to be considered serious also, for previous to the injection the bowels had moved each hour for nine hours with large results of dark, tarry, meconium-like material and bright red blood, and on the sixth day the baby weighed 24 ounces less than at birth, a portion of which large loss certainly can be attributed to the hemorrhage.

6. Boston Med. and Surg. Jour., 1891, cxxv, No. 9.
7. Arch. Pediat., 1894, xi, No. 8.
8. Am. Jour. Med. Sc., March, 1906, cxxxi.

Although in general it is recognized that this hemorrhagic condition is self-limited in 25 per cent. of the cases, and possibly any one of these patients might have recovered without the serum, the sequence of recoveries in three serious cases should be ascribed to the action of the serum. The most impressive fact to the observer in each case was the almost immediate control of the hemorrhage after the administration of the serum. This was shown directly from observation of the umbilicus in the first case, and the nose in the third, while indirectly in all three by the absence or marked diminution of normal blood in the stools, although for the following two or three days each baby did have a tar-like material in the stool, suggestive of old blood; but no tests were made at the time to prove this.

The amount administered in each case was 5 c.c. of clear rabbit-serum, injected immediately after procuring it from the animal. In the first case this dose was repeated in twelve hours, although there was no sign of a fresh hemorrhage at that time, and it seems to have been uncalled for on present consideration of the case. The serum in these cases gave absolutely no untoward symptoms. No lesion of the skin, swelling of the lymph-glands or edema was noted. The serum treatment of this disease has been extremely successful in a series of Dr. John E. Welch's cases, which as yet have been remarked on only editorially.[9] Dr. Welch used human instead of animal serum, and in that manner avoided the sensitization of the patients to a foreign serum and the possible danger later of anaphylaxis, if the same serum was ever administered at any future time.

OTHER METHODS

This condition has also been successfully treated along this same line in two other different ways. Wirth reports a case in which hemorrhage from the nose and mouth was rapidly controlled by the local application of some sponges saturated with horse serum.

Three other remarkable cases have been reported, in each of which the baby was moribund, and in whom complete recovery ensued immediately after direct transfusion. These recoveries probably took place for the same reason as previously noted, namely, the accession of fibrin ferment from the donor, with the additional factor also of simultaneously abolishing the extreme anemia. Direct transfusion, therefore, has this gain over the less technical serum treatment. The serum treatment, however, has a distinct place in the therapy of this condition, because of its simplicity and lack of operative shock to the delicate patients. It is of course to be followed by transfusion if necessary, as was done in the case in which Murphy[10] was called on to perform the operation. In that case the subcutaneous injection of rabbit serum is reported as 75 c.c., administered without effect in checking the hemorrhage. The size of the dose possibly in itself may account for the failure, as Weil warns that too large a dose produces the opposite effect. In two of these cases, one of which is reported by Lambert[11] and the other by Mosenthal,[12] transfusion was performed by Carrel by an end-to-end anastomosis, and in the third by Murphy by the use of a cannula. In all of these three cases the success is to be attributed to the special skill of the operator, and few communities as yet possess such especially skilled men.

61 Pearl Street.

9. New York Med. Jour., 1910, xci, No. 17.
10. Boston Med. and Surg. Jour., 1909, clxi, No. 12.
11. Med. Rec., New York, 1908, lxxiii, No. 22.
12. Mosenthal, H. O.: Transfusion as a Cure for Melena Neonatorum, THE JOURNAL A. M. A., May 14, 1910, p. 1613.

Therapeutics

RECTAL AND PHARYNGEAL ANESTHESIA

The last word has not yet been said as to the best method of producing general anesthesia, therefore any demonstration or proof of a method that will be satisfactory in cases in which the ordinary methods are troublesome or even dangerous is welcomed. While spinal analgesia under the administration of an expert (and of necessity there will be but few who will ever become expert, by study and frequent practice, in this particular branch of surgery) is apparently safe, it is and always will be a dangerous and serious operation in the hands of one of inexperience. The proofs of this assertion are so many that it is hardly worth while to cite the reasons. A demonstration recently given in Washington, at the annual meeting of the American Therapeutic Society, by Dr. W. Wayne Babcock, of Philadelphia, positively showed the reasons for lack of anesthesia and the reasons for dangerous anesthesia by spinal injections of local anesthetics in solutions of varying density. Dr. Babcock based his knowledge of spinal anesthesia on his laboratory study and on 2,000 spinal injections. With such an experienced spinal anesthetist the surgeon and the patient might feel safe, but it seems demonstrated that spinal anesthesia will not ordinarily be the method of choice.

Rectal anesthesia was first practiced and recommended by Pirogoff, of St. Petersburg, in 1847, but little more was heard of this method until 1884, when several French surgeons and some American surgeons took up the method. The method of administering the ether was to surround the ether bottle with hot water to cause the ether to vaporize rapidly, and this vapor was directed through a tube into the rectum and up into the colon. The advantage of this method of causing anesthesia was that there was less nausea and vomiting, less coughing, and less disagreeable after effects, and the amount of ether used was much less than when administered by the lungs. Also, in operations on the head the anesthesia could be continued and no contamination or interference with the field of operation occurred. The disadvantages were that the primary anesthesia was rather slow, that sometimes profound anesthesia occurred which could not be prevented, and frequently bloody, or at least troublesome diarrheas from irritation of the colon developed subsequently.

On the presumption that rectal anesthesia would be, in many cases, a valuable procedure and that a proper apparatus could be devised so to regulate the ether and diluting gas administered as to overcome all the disadvantages of the method, Dr. Herbert K. Thoms, working in the surgical laboratory (Yale Medical School) of Prof. J. M. Flint and in the New Haven Hospital under Professor Flint and Dr. William Verdi, has perfected an apparatus which seems to work successfully, both laboratorically and clinically in producing safely and satisfactorily anesthesia by way of the rectum. A complete description of the apparatus and the method of using it appears in the *Yale Medical Journal,* May, 1910. This apparatus is on a standard easily movable to any part of the operating room, can have the electric heating apparatus so modified by a rheostat as to cause rapid or slow evaporation of the ether, by combining tubes allows any desired mixture with oxygen or air, so as to prevent too irritant or too great concentration of

ether vapor. Also, without dislodgment of the rectal tubes pure oxygen or air may be substituted for the ether-loaded gas in the colon, if anesthesia is too profound.

To overcome the primary slow anesthesia from the rectal method, in Thoms' cases primary anesthesia was generally caused by the administration of chloroform or ether by the lungs; then immediately the rectal method was substituted. This left the operative field of the head, face and neck entirely free for the surgeon.

As the anesthetist, in such operations on the head, can sit with his apparatus at the patient's wrist with the arm extended, he has the character of the pulse under observation.

One essential to the success of ether anesthesia by the rectum and colon is that the lower bowel shall be thoroughly emptied of feces by rectal injections and colon washing prior to the administration of the anesthetic.

This same apparatus, Thoms demonstrated, was perfectly serviceable for administering ether by way of a catheter put through the nostril into the pharynx. This method obviates much of the profuse salivation often caused by administering ether in the usual way. This is a valuable method when the back of the head must be operated on and the patient must lie with the abdomen and face downward.

PEPSIN

A number of years ago pepsin was freely given for all kinds of stomach indigestion, in fact, large amounts of pepsin in various more or less useful forms were administered. During the last ten years the amount of pepsin used has gradually, continually, and almost rapidly, diminished on account of the assertions that pepsin was rarely diminished in quantity in the stomach secretions in ordinary diseased conditions; that the main trouble was always with the hydrochloric acid, it being readily diminished, or, often in nervous temperaments, increased in amount. It is now generally known that a diagnosis cannot be made by the presence or absence of hydrochloric acid in the stomach test meal. Free hydrochloric acid may be present in carcinoma of the stomach, and it is often absent in disease of the stomach adnexa and in many, if not all, cachectic conditions.

Mr. William C. Rose (*Archives of Internal Medicine*, May, 1910, vol. v, p. 459) has, by new methods of testing for pepsin in patients after the Ewald test meal, shown that the peptic activity may be greatly diminished or even become absent, not only in gastric cancer, but in cancer of the intestine, esophagus, and even breast. Such patients, then, should receive not only dilute hydrochloric acid after their meals, but also pepsin if the nutriment administered is to be of any value. It is interesting to note that in a patient who had gall-stones the pepsin was found diminished to one-third of normal.

It is possible that, after prolonged illnesses such as typhoid fever or other serious sickness, not only should dilute hydrochloric acid, in small amount, be administered, but also pepsin to aid in the proper digestion and assimilation of food.

DIABETES MELLITUS

Ever since the danger of acidosis has been recognized and the likelihood of acidosis being caused by a sugar and carbohydrate-free diet in this disease, physicians have been constantly on the alert to recognize this condition by a study of the urine. The indicator of danger has been considered to be the finding of diacetic acid in the urine. This is of ready determination by a ferric chlorid solution added to the urine causing the development of a red or crimson color. It has been found, however, that this reaction could be present and still not be a positive indication of the amount of beta-oxybutyric acid that is in the urine or the nearness of an actual toxic acidosis. The determination of the betaoxybutyric acid is tedious. The same is true, more or less, of acetone and of ammonia that may be present in the urine. Therefore the tests must be made in the laboratory and should be made frequently when a diabetic patient's diet is being gradually reduced to pure proteid and fats. By such careful examination it has been lately learned that the presence of these acids in the urine is not necessarily an indication that the diet must become more liberal or that starch should be immediately given. Of course if symptoms of diabetic coma are present very large amounts of alkalies must be administered and starch in liberal quantities must be immediately allowed.

Lately a simple indicator of the actual condition of the system as to acidosis has been suggested by L. Blum (*Therapie der Gegenwart*, 1910, li, No. 3, p. 97). He finds by repeated experimentation both with diabetics and with controls that from 5 to 10 grams (75 to 150 grains) are sufficient to render the urine of the normal patient alkaline in reaction, while with mild acidosis 20 grams (5 drams) are necessary. With an acidosis of moderate intensity from 20 to 30 grams (5 drams to 1 ounce) are required, while in severe cases of acidosis it takes 50 grams (12½ drams), and in actual diabetic coma 150 grams (5 ounces) or more are necessary before the urine will become alkaline. Bicarbonate of sodium, therefore, seems to be a very simple indicator of the acid condition of the system, and every few days, when the starches and sugars are being gradually diminished, the bicarbonate test should be tried.

CONSTIPATION

We have become used to the recommendation of soured milk or some soured milk preparation for various kinds of intestinal indigestion, but Dr. Thomas D. Luke (*Practitioner*, May 1910, vol. lxxxiv, p. 653) recommends these preparations in the treatment of constipation. As a matter of fact, with certain kinds of diarrhea soured milk will stop the abnormal fermentation and may actually produce constipation. Dr. Luke finds that constipated patients who will take from 2 to 4 glasses a day of a curdled or soured milk will have normal movements of the bowels. Of course this must be continued for a long number of weeks, and then the amount gradually reduced. He admits that the addition of agar agar to the diet is an improvement. It is perfectly true that constipation is very frequently due to gastric and intestinal indigestion, the latter not serious enough to cause diarrhea. In such cases soured milk, correcting fermentation, might well be of benefit. It is certainly of value when there are colon putrefactive processes.

A valuable simple treatment for constipation is yeast, taken once or twice a day, depending on the number of movements of the bowels that it causes. The ordinary tin foil yeast cake works almost as well. The amount administered should be about five-eighths to three-quarters of a cubic inch dissolved in half a glass of water. This dose should be taken twice a day.

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SATURDAY, JULY 30, 1910

THE INTELLECTUAL LIFE AND THE PHYSICIAN

Like most lives that are worth while, the life of the physician is weighted with heavy responsibilities. The problems, both of disease and of health, which it presents, demand a keen appreciation of values and refined judgment; and how, one asks, can these be acquired except by the closest, the most unremitting, the most single-minded concentration of interest, of purpose, and of activity? With "the life so short, the craft so long to learn"—with accident and occasion perpetually conspiring to snare away the golden fleeting minutes—with human powers so often failing before the great tasks set them—the conscientious man is often led to feel that to "take the time" for intellectual activities which do not contribute directly to professional knowledge is an indulgence little short of a crime. For the overworked physician to steal an hour for the perusal of Carlyle or Coleridge when he ought to be "reading up" an obscure case seems a sort of professional suicide.

So we allow ourselves to be driven from task to task by the sense of duty still unfulfilled. Yet, if we can but detach ourselves from our own problems long enough to view them with impersonal eyes, no one knows better than we do the fallacy in the argument put forward by an overwrought sense of duty and overburdened nerves. All too well do we know the scientific truth underlying the ancient saws about "all work and no play" and "the bow that is never unstrung." Both brain and will are often found in thraldom to depletion of physiologic force. No great work of any kind was ever wrought out of exhausted cell protoplasm.

For the physician who is driven by unremitting toil nothing is more justifiable than the occasional pursuit of some hobby or avocation, for mere change of mental atmosphere is often more restful than doing nothing. Provided that the given form of recreation is capable of absorbing one's mind and interest for the time being, it matters little from this point of view what it is—golfing, fishing, or the study of numismatics or genealogy. It is said that the venerable philosopher, Dr. James McCosh of Princeton, after spending hours of intense intellectual effort in his library, used to take up with avidity the most thrilling yellow-bound novel he could lay his hands on. This, while it might better be called the escape from than the pursuit of the intellectual life, acted as a preventive of brain-fag and neurasthenia by calling into play a different set of faculties. Most of those who care for what may justly be termed literature, however, find an increasing delight in it because its great variety brings to their minds something that stimulates or soothes according to their demands.

It may be said, and with much justice, that the physician's life is necessarily an intellectual one in greater or less degree. He needs recreation like all other workers; but is intellectual exercise the recreation he needs? Certainly there is no profit to the spent and jaded mind in reading Kant or Schopenhauer when fit for nothing more strenuous than a light novel. When one is reading for recreation, the best thing to read is what most thoroughly refreshes the mind, whether that happens to be Scott or George Meredith or Diamond Dick.

After all, however, there is something out of order either in the mind or the life of the man who feels no spontaneous impulse toward mental effort in other fields than those which it is his life-work to till; and the man who forever represses that impulse will find that his life-work, as well as himself, is narrowed thereby, for he will have the less mentality to bring to it. There is a sort of mental movement suggestive of that peculiar unicellular organism, the ameba, in which the mind wraps itself about a thought, digests it into what seems best suited for its upbuilding and stores it away in the intellectual body. The business of mind-building continues indefinitely and constantly just so long as disease does not step in to destroy the power of concentration. Perhaps one never learns any subject thoroughly which may not prove useful at some time in one's career. The physician should be not only a man of learning but a man of culture.

The day has long since gone by, to be sure, when any man, however great his powers and gifts, could take all knowledge for his province; but the physician, whose province lies, so to speak, at the center of the realm of human knowledge, and lays all the others under tribute, has the least justification for intellectual provincialism. If physicians as a class were to allow themselves to become narrow specialists or professionalists, so absorbed in their own science and craft as to lose the sense of relation to the life and mental movement about them, they would soon come to be regarded as mere tinkers and in no sense engineers—called in when the machine absolutely refused to go, but disregarded on all other occasions, because tinkers do not know or care how or for what purpose the machine is to be used.

Every good reason exists for a fondness and cultivation of the broadest intellectual life by the physician. As an individual, he needs the change of mental atmosphere; as a professional man, he needs the new light on his own problems often supplied by excursions out of bounds; and the profession needs men of broad intellectual outlook.

RECENT ADVANCES IN STUDY OF ANAPHYLAXIS

In the first periods of investigation of the anaphylaxis reaction the objects mainly sought were, appropriately, the establishment of the general characters of the reaction, its limitations as to animals, materials and dosage, and similar matters that could be learned by purely objective methods. These facts having now been satisfactorily established and a safe basis for more speculative excursions provided, investigators have recently been considering more closely the real essential nature of the phenomenon and its relation to the other biologic reactions. From their studies many valuable contributions have come within the last two years, and our understanding of the real significance of the reaction of anaphylaxis has been much helped; therefore a review of some of the most striking of these advances may be profitably made at this time.[1]

By the earlier investigations it was shown that the anaphylaxis reaction could be induced in certain warm-blooded animals by injection of almost any soluble protein at suitable intervals, the first injection rendering the animal sensitive to the second injection of the same protein. By no means all animals react, however, to such injections, and the guinea-pig shows by far the most marked and constant reactions, being about four hundred times as reactive as rabbits. Dogs and rabbits react quite differently from guinea-pigs, while mice, rats and some other animals seem not to react at all. In the blood of animals that have received a single dose of protein there appears a substance which renders the animal sensitive to the protein, so that if the blood of such a sensitized animal is injected into a normal animal this second animal is rendered sensitive to the protein, a process of "passive sensitization." After an animal has survived a second or intoxicating dose of the protein it is commonly found to be no longer sensitive to the protein, this stage of "antianaphylaxis" being characteristic especially of reactions in guinea-pigs. With these fundamental facts well established by the earlier studies, their explanation has been the chief object of experimenters now in the field.

It is now believed by most investigators that the protein which intoxicates the animal at the second injection is identical with the protein which sensitized it after the first injection, this being the view originally maintained by Rosenau and Anderson. So far no satisfactory evidence has been brought forward that anything except proteins can produce the anaphylactic condition, and these proteins must be in a soluble form and not much altered by chemical or other means from the natural state. The first introduction of the abnormal protein into the circulation of the animal causes a reaction with the formation of some substance, the "reaction body," which unites with the protein injected later, to form a poisonous substance, the "anaphylatoxin." Since the symptoms produced in reacting animals are quite the same with the most varied of proteins, it would seem probable that the poison produced by this reaction is the same with all proteins. This formation of anaphylatoxin ocurs not only when the protein is injected into a sensitized animal, but also when the serum of a sensitized animal is mixed with suitable quantities of the specific protein in the test-tube, the resulting mixture causing immediately the typical symptoms of anaphylaxis when injected into a normal animal.

This observation brings the anaphylaxis reaction into close relationship with the other known serologic reactions of immunity, and there is rapidly growing evidence in support of the contention of Friedberger that the anaphylaxis reaction and the precipitin reaction are inseparably related. He maintains that the reaction of the specific protein with the serum of the sensitized animal causes the formation of a body entirely analogous to the precipitate produced by the action of a precipitin on the specific protein, which, in the presence of the serum complement, is made soluble and toxic. Since recovery from this anaphylatoxin is so rapid and complete, it evidently is in the same class with such poisons as atropin, morphin and strychnin, rather than with the poisons that cause marked tissue injury, such as phosphorus, arsenic, ricin, etc. It seems probable that the fundamental reactions are the same in the formation of precipitins, agglutinins, hemolysins, bacteriolysins, complement fixation bodies, and the anaphylactic reaction body or sensibilin. In all cases alike, a foreign protein is introduced into the body of an animal, which reacts by the production of immune bodies; these immune bodies may be demonstrated by observing their precipitating, agglutinating, lytic, complement-binding, or anaphylactic reactions, the substances involved being the same and only the means of exhibiting their presence and action differing in each case. This is essentially the conclusion reached by Doerr as to the place of anaphylaxis among the immediate reactions, and there is much evidence for this view which we have not the space to repeat.

Much work has been done to determine the limits and degree of specificity of the anaphylaxis reaction, with the general conclusion that these are quite the same in nearly if not all respects as the precipitin and complement-fixation reactions; the chief difference lies in the fact that the only available means for observing the anaphylaxis reaction is the production of acute symptoms in experimental animals, which is far less accurate and delicate than the objective test-tube methods used in the precipitin and complement-fixation reactions. On the other hand, the extremely minute quantity of protein required to sensitize an animal gives the anaphylaxis reaction an advantage in certain medicolegal investigations, especially when cooked or putrefying flesh must be identified. An important addition to the symptomatology of the anaphylaxis reaction is the

1. An excellent review, covering most of the recent literature, has recently been published by Doerr, R.; Ztschr. f. Immunitätsforsch., 1910 (II Ref.), p. 49.

marked fall of temperature which accompanies positive reactions; this objective measure promises to be of assistance in doubtful cases, but it falls far short of making our determination of the presence or absence of reaction as well defined as is necessary for exact studies.

Some attempts have been made to apply the passive sensitization phenomenon to clinical diagnosis, on the principle that if an individual suffering from an infection is sensitized to the infectious agent his blood, when injected into an animal, should render the animal passively sensitive to the proteins of the infectious agent. So far, however, no very satisfactory results have been obtained with bacterial injections, or with the serum of persons with echinococcus cysts, although the severe symptoms which occur when such cysts rupture have been ascribed to an anaphylactic reaction to the protein of the cyst contents. Pfeiffer, however, asserts that the serum of cancer patients, when injected into guinea-pigs, renders them passively sensitive to cancer proteins, so that they react typically if extracts of cancer tissue are injected forty-eight hours later. This reaction is based on the assumption that cancers contain proteins which are specifically different from the normal proteins of the host, an idea for and against which much has been written; it can be stated only that there is much dispute concerning Pfeiffer's claim, and it cannot yet be considered as established. Another suggestive observation, first made by Rosenau and Anderson, that eclampsia may be in some way related to anaphylaxis, since guinea-pigs can be sensitized to extracts of guinea-pig placenta, has received some support by the finding that serum from eclamptic women will render guinea-pigs passively sensitive to human amniotic fluid, which indicates that the blood in eclampsia contains specific reaction bodies against the proteins of the fetal fluids.

THE ENDLESS CHAIN

Some one has used the expressive phrase "endless chain" to describe the passage of pathogenic bacteria through the body of a patient—where they tarry for a time and multiply, their exit into the external world, and their entrance, by a variety of routes, often circuitous, into the body of a fresh victim. It is the self-imposed task of preventive medicine to interrupt this chain at some point.

As is well known, not all parasites are alike in the ease with which they survive outside the body of their host. In the case of most pathogenic bacteria, we know that ordinarily no multiplication takes place outside of the body of the host and that the bacteria discharged from the body of the patient perish more or less rapidly. For each disease, there is some one link of the chain that experience has shown can be most readily broken by the application of preventive measures. Attempt is made in some cases to prevent the distribution of pathogenic microbes from patient or convalescent, and to this end elaborate measures of isolation and disinfection are instituted. In others, the chief aim is to prevent microbes present in large numbers or unavoidably in the environment from getting a lodgment in the uninfected human body. In many instances both kinds of measures must be carried out in order to attain even a moderate degree of preventive success. With typhoid fever, to use one of the most striking illustrations, a more general disinfection of the urine and feces of typhoid fever patients would unquestionably diminish the prevalence of this disease; and yet the existence of unrecognized "carriers" would still leave a wide opportunity for the application of measures designed to prevent the swallowing of typhoid bacilli. Owing to the high vitality of the typhoid bacillus outside the body, the endless chain of bacilli passing from patient to patient and again out to fresh patients is somewhat more in evidence than in some other infectious diseases.

To continue with this example, it is a matter of national surprise that, when these facts are so well known, the response of the American business man is not more prompt and effective. Quick to detect sources of leakage and loss in many matters of a financial nature, the average American has seemed slow to grasp the depreciation of national resources involved in the steady oozing away of valuable human life. It might be supposed that in this day it would not be necessary to dwell insistently on the relation between water-supply and sewage disposal, but the public memory seems short. Nowhere is the endless chain more conspicuously before our eyes than in those instances in which one can see thousands or even millions of gallons of sewage flowing into a lake, and not far away the intake from which the water-supply of a great city is derived.

The situation in Milwaukee, as described two weeks ago, is one of these cases. The lesson that up to 1895, when the water tunnel was extended more than a mile into the lake, much of the typhoid fever in Milwaukee was water-borne, appears to have been thrown away; indeed, it does not seem to have attracted the attention of professional sanitarians that it deserved. Increase of the city's population by more than 100,000, together with increased facilities—save the mark!—for pouring sewage into the lake has now led, after about fifteen years, to a recurrence of the disease to a degree that has drawn general notice. And yet one would suppose that the situation had been sufficiently plain for several decades. An observer standing by the river mouth (or sewage outfall) in Milwaukee can without much imagination visualize the endless chain of typhoid bacilli from the sewer direct to the water intake. All the known facts pointed to water pollution—the frequent occurrence of winter and spring epidemics, the general distribution of cases throughout the city, the high typhoid rate prior to the extension of the water tunnel, the finding of *Bacil-*

lus coli in the tap-water. There was the endless chain for all to see. The situation demanded action by an intelligent community years ago. Are there any other cities nursing the delusion that they can get rid of the firecracker before it explodes in their hands?

ALIMENTARY FEVER

During the season of acute gastrointestinal disturbances it will not be amiss to call attention to one special feature of this group of cases, which has only recently been investigated and rightly interpreted. Fever is an almost constant symptom of these cases, and has long been thought to be due to the absorption of bacterial toxins from the intestinal canal. No experimental proof of this toxicity has been brought forward; it has merely been assumed that such was the case, on the ground that when there is fever there must have been bacterial products absorbed.

The predominance of the bacterial factor in the etiology of the acute gastrointestinal disturbances of infancy is well brought out in the research of the Rockefeller Institute on the *Bacillus dysenteriæ*. It is to Finkelstein[1] that we are indebted for showing us that in a large percentage of cases this fever is due primarily, not to bacterial products, but to the food itself. His work on the etiology of intoxication (cholera infantum) seems to bring out clearly the fact that the two elements in the milk which produce fever are the sugar and the salts. He was able to show that by increasing the amount of sugar in the diet of a slightly deranged infant all of the symptoms of cholera infantum—the fever, the coma, the frequent stools, the marked drop in weight, and the lactosuria—could be produced. In like manner he showed that the reduction of the sugar, or in the severer cases, the withdrawal of all food for from twenty-four to forty-eight hours would make the fever disappear. He noticed also that when broth was given to these sick infants instead of boiled water, they often reacted with a marked rise in temperature. It remained for Meyer[2] to show experimentally that salt solutions given by mouth could produce fever in infants with slight gastrointestinal disturbances. Sodium chlorid has the most marked pyrogenic effect. Sodium bromid and iodid also have this property; the other sodium salts have little if any pyrogenic action, and the same is true of the potassium salts. Calcium salts on the other hand have a depressing effect on the temperature, according to Schloss.

The value of this contribution outside of its scientific interest in the study of aseptic fever, lies in its great clinical importance. Normally the temperature of an infant varies between 98.2 and 98.9. A rise above 99 must always be considered with suspicion when associated with other gastrointestinal symptoms. Thus, when by careful physical examination infections can be excluded as the cause of fever, its presence is one of the earliest and surest indications of an impending intoxication. A fever that does not disappear in from twenty-four to forty-eight hours on a water diet cannot be considered an alimentary fever, although one frequently has the combination of alimentary and infectious fever.

1. Finkelstein: Deutsch. med. Wchnschr., 1909, xxxv, 191.
2. Meyer, Deutsch. med. Wchnschr., 1909, xxxv, 194.

Current Comment

UNIFORM STATE LAWS

The National Civic Federation is establishing an organization in each state in order to secure uniform state legislation. This is one of the results of the national conference held in Washington last January for the promotion of uniform legislation. Mr. Ralph M. Easley, chairman of the executive council of the federation, says: "When one considers the chaotic clashing of the laws in the forty-six states on so many important and vital questions of the day it is a matter of wonder that business has been able to proceed at all. To promote and facilitate the business of the country and better understanding between states concerning legislation, if not a complete uniform legislation, is regarded by serious-minded business men as one of our urgent problems to be solved." This effort in the direction of uniformity of state legislation on matters essential to the successful conduct of business is a most gratifying evidence of progress. In such a consideration the laws regulating health should by no means be overlooked. A progressive and uniform system of state laws on the public health with a national bureau or department organized in harmony with such a system will go far toward solving many of our sanitary and economic problems.

PUBLICITY AND PUBLIC HEALTH

The theory has been advanced that one potent cause of civic unrighteousness in the United States is the attitude of public opinion toward the subject of unpleasant truths. Perfectly justifiable criticisms of indefensible health conditions in our cities are met with the sneer that the critic is a "knocker" and that no good citizen can be anything but a "booster." The result of this state of mind is that those who would call attention to ills that are crying for remedial action, keep silent. Such a policy of ostrich-like blindness to evils may be excusable in a frontier town to which quantity of population is the only object in view, but in long-established, conservative towns and cities such a position is an anachronism. Nevertheless it is the commonest of civic faults. It is refreshing, therefore, to see the mayor of a city come out boldly and announce that he heartily approves the fullest publicity regarding the health conditions of the city of which he is chief executive officer. This is what Mayor MacRae of Wilmington, N. C., has recently done. It seems that the death-rate in Wilmington has been high and that typhoid fever is very prevalent. In a three-

column article the mayor tells some unpleasant but necessary truths about sanitary conditions in his city and he makes suggestions for bettering them. No sugar coating is added to the rather bitter pill unless it be the comparison which shows that the death-rate in a sister city is even higher. The mayor has received the support and assistance of one of the local newspapers, the *Evening Dispatch*, which states the naked truth in an unsensational but vivid way. This paper has also enlisted the services of a number of local physicians, who through its pages are discussing health matters with a freedom that augurs well for the city. The thought that exposure of evils that exist may "hurt" the reputation of the town is put aside as an unworthy one and the broader view is taken that by making Wilmington one of the healthiest cities in that section of the country a far more enduring monument will have been raised to the city's well-being. Wilmington is to be congratulated on having a far-sighted mayor, a progressive newspaper and an enlightened public—which makes the other factors of value. There are no doubt hundreds of cities whose health conditions are as bad as those in Wilmington and which will continue to be sanitary plague-spots long after this North Carolina town has become a model of sanitation. Would that there were more city executives like MacRae and more newspapers like the Wilmington *Evening Dispatch*.

CRIPPEN—QUACK AND FUGITIVE

The press of two continents is wrought up over the disappearance of a Dr. H. H. Crippen who is now wanted by the London police on the charge of having murdered his wife. Crippen, who has been quacking it for a few years past in London, appears, according to the medical directories, to be a graduate (1884) of the Homeopathic Hospital College of Cleveland, Ohio. In 1886 his address was given in the directory as 8 Madison Avenue, Detroit. In the 1890 edition of the directory we find him at 955 Fifth Street, San Diego, Cal., while in 1893 Crippen had crossed the continent and was living at 78 Maiden Lane, New York City. In 1896 we find his address 1501 Arch Street, Philadelphia, while subsequent editions of medical directories of the United States do not contain his name. It was at that time, apparently, that he went to London, where he became the "physician" for a quack concern known as the Drouet Institute for the Deaf. This "institute" was originally established in Paris by a Britisher named Derry. To keep within the French law it became necessary to secure the services of a renegade qualified practitioner whom Derry found in a broken-down physician named Drouet, who died soon thereafter. The concern started in a small way, advertising to cure deafness with a mixture that Derry and his wife concocted and put on the market. Drouet furnished the medical nomenclature to catch the dupes and Derry furnished everything else. In five years Derry was making $200,000 a year and advertising heavily. A branch office was opened in London and "H. H. Crippen, M.D. (U. S. A. 1884)" was put in charge. The British branch never did as much business as its Parisian prototype, and *Truth*, which exposed this fake, unkindly suggested that the reason for the lesser success of the London branch was that possibly the English people keep their ears cleaner! Whatever the reason, Crippen's part of the organization did not prove as successful as Derry's. The decline of the Drouet Institute dated from the death of Derry, who passed away by the delirium tremens route, after having dissipated his fortune in gambling and drinking. His widow was left penniless. After the fall of the "institute," Crippen seems to have conceived the idea of running a similar fake under another name and he opened what he was pleased to call the Aural Remedies Company in London, with his "special absorbent treatment" as a leader. His methods, it seems, were practically those of the defunct Drouet Institute, which a noted British judge—Justice Matthew—designated as "a disgraceful institution carried on for unworthy objects by discreditable means." Now, it seems, the Aural Remedies Company has gone the way of the Drouet concern, while its originator bids fair to meet an end even more notorious than that of the founder of the French fake.

THE LEAGUE GETS ANOTHER DEFENDER

That the "National League for Medical Freedom" is fulfilling its "manifest destiny" is evident. One of its latest champions is Leach of Indianapolis, the "cancer curer," whose profitable and conscienceless business was interfered with by the postal authorities and by exposures in THE JOURNAL. In a leaflet which Leach sends out to prospective victims he quotes some of the unedifying slush which the *New York Herald* had to say about the "doctors' trust" when it took up the cudgels for the "league." He complains, too, that he loses a number of victims nowadays because "family physicians, who belong to the doctors' trust," persist in confronting possible patients of Dr. Leach with the articles that have appeared in THE JOURNAL. And then he wails, "many of them, without further evidence, immediately drop correspondence with me and surrender their cases to the doctors' trust." Probably this "cancer curer" hopes to find in the "National League for Medical Freedom" that appreciation for his talents which he has not been accorded by those who see nothing to admire in humbugging and defrauding the hopelessly ill.

OFFICIAL WARNING AGAINST QUACKS

A paragraph in the Chicago papers of recent date called attention to the fact that the bureau of food inspection was issuing an official warning against quacks. Such a flagrant case of paternalistic interference with the personal liberty of the individual seemed to call for further investigation. The latter part of the paragraph in question, however, set at rest any misgivings that might have arisen, for it was there stated that the "quacks" referred to were "posing as qualified to test cows for tuberculosis." That, of course, put a different complexion on the matter. There can naturally be no objection to protecting cows against the machinations of the quack—because cows cost money.

Medical News

ALABAMA

Degrees Conferred.—The University of Alabama has conferred the degree of LL.D. on Dr. William C. Gorgas, chief sanitary officer at Panama. Dr. Gorgas is a native of Alabama. At the meeting of the Jefferson County Medical Society Dr. Gorgas delivered an illustrated lecture on "Sanitation and Work of the Health Department in Panama."——Dr. Luther L. Hill, Montgomery, also had the degree of LL.D. conferred on him by the university in recognition of achievements in heart surgery.

ARKANSAS

State Board Examination.—At the meeting of the State Board of Examiners in June, 74 physicians were granted license to practice in Arkansas.

Board Organization.—Among the members of the new Hot Springs Medical Board recently organized are Drs. Charles Dake, Edward H. Martin and William E. Parker. The government representative on the board is Maj. George D. Deshon, commanding officer of the Army and Navy Hospital at Hot Springs.

New Medical Director.—Major Harry M. Hallock, Surgeon U. S. A., retired, has been appointed medical director of the Hot Springs reservation. The position is a new one, having just been created by the Secretary of the Interior on the recommendation of a government official who investigated conditions at Hot Springs. Dr. Hallock will have supervision of hygiene and sanitation of the baths and of the resort and will instruct bath-house operators and attendants in these matters.

Power to Revoke License.—In the case of the state board against Dr. A. S. McCrary, Little Rock, the Supreme Court, in a decision handed down June 27, has decided that the State Board of Medical Examiners have authority to revoke a license to practice medicine in Arkansas in any case where they find that the practitioner has publicly advertised special ability to treat or cure chronic or incurable diseases, thus upholding the law enacted by the last legislature. The state board will now inaugurate a crusade against physicians in the state who have been thus advertising.

For Prevention of Blindness.—The Arkansas Association for the Prevention of Blindness was organized at Little Rock, July 1. W. B. Fletcher, of Lonoke, was elected president. Among the physicians and others interested are Drs. John R. Dibrell, Morgan Smith, Ida J. Brooks, Anderson Watkins and Joseph T. Clegg, the attorney general of the state and many other prominent citizens. Dr. Charles F. Campbell, director of the work of the Pittsburg Association for the Prevention of Blindness, was the principal speaker. He congratulated Arkansas on having such an admirable school for the blind.

COLORADO

Personal.—Dr. and Mrs. F. N. Cochems, Salida, have gone to Europe for the summer.

Hospital News.—The Children's Hospital, Denver, has rented the property adjoining the hospital grounds, and will occupy it as a home for their nurses.——The Florence Crittenden Home has opened a hospital annex for treatment of women and children. The hospital is in charge of Dr. Agnes Ditson, obstetrician to Crittenden Home.——The National Jewish Hospital for Consumptives has purchased a site for the erection of a trade school building. The hospital now maintains a grammar school and teaches certain handicrafts.

CONNECTICUT

For Better Dispensary Work at Yale.—Dr. George Blumer, dean of Yale Medical School, writes that $25,000 has been received from an anonymous donor for the purpose of increasing the efficiency of the dispensary service. He states also that a movement is on foot to raise an endowment fund for the medical school.

ILLINOIS

Chicago

Campaign Against Typhoid.—In the campaign against typhoid being conducted by Dr. L. L. Lumsden, of the U. S. Public Health and Marine-Hospital Service, in connection with the city health department, Dr. Lumsden has issued a pamphlet detailing what may be done by the mayor and city council of cities in eradicating typhoid fever. He says that the health department of a city has not heretofore been regarded by politicians as a political asset of value, but at the present time a candidate for reelection to a city office can point unhesitatingly to his achievements in protecting the health of the people and advance this as an excellent reason for his continuance in office. He urges that in the mapping out of health policies of the city, funds for sanitary improvements should be appropriated as liberally as the tax rate will permit, and states that a good sewerage system and good water supply are certainly among the most vital important things to be provided for. The health department is now prepared to make blood cultures in all suspected cases of typhoid fever. The work is being done by Bacteriologist William A. Starin under the supervision of Professor Jordan of the University of Chicago. On receipt of a request by the typhoid fever bureau, a bacteriologist will be sent to the patient's bedside within twenty-four hours to take the specimen. This method gives the maximum information in the earliest stages of the disease. Among the healthgrams of the last *Bulletin* of the health department is this: "The three (dis) graces—filth, flies and fever."

IOWA

Higher Entrance Standard.—Official word from the State University of Iowa says that this fall and hereafter in addition to a four year high school education, two years of collegiate work, including courses in physics, inorganic chemistry and biology will be required for admission to the College of Medicine and to the College of Homeopathic Medicine.

Personal.—Dr. John H. Peck has been appointed to the chair of physical diagnosis and clinical microscopy at Drake University. Dr. Ira N. Crow, of the staff of the department of anatomy, has resigned.——Dr. Lawrence Patterson, Des Moines, has secured an appointment as physician for a large plantation in the Hawaiian Islands.

MARYLAND

Personal.—Dr. Jesse C. Coggins, medical director of the Laurel Sanatorium, has gone to the Pacific coast.——Dr. J. H. Spicer, Cumberland, has been appointed resident physician at Grace Hospital, Detroit.——Dr. Thomas K. Conrad, Chevy Chase, was on July 12 appointed health officer of that place.——Dr. Francis E. Harrington, of Washington, D. C., has been selected as city bacteriologist and health officer of Cumberland.——Dr. G. L. Broadrup, Cumberland, was severely injured by being run over by his automobile. He cranked the machine on a hill while it was in gear.

Baltimore

To Aid in Poison Cases.—Dr. C. Hampson Jones, Assistant Health Commissioner, urges that the city employ an expert chemist who can be called on by the coroners in cases of suspected poison. In Maryland no provision is made for analysis of the stomach contents unless there is positive evidence of poisoning.

Personal.—Dr. E. H. Richardson, resident gynecologist of the Johns Hopkins Hospital for the past four years, was entertained at dinner by his colleagues of the hospital staff, on the occasion of his retirement. He will practice here. His successor is Dr. E. K. Cullen.——Dr. Christian Deetjen has sailed for Europe to attend the International Congress of Medical Electricity.——Dr. W. Milton Lewis, who was operated on some weeks ago at Union Protestant Infirmary, has gone to Cape May to convalesce.——Drs. A. Samuels and G. Halsted Boyland have sailed for Europe.——Dr. Arthur J. Traveira, after a visit north, will visit Spain and Portugal.

State Lunacy Commission.—The After-Care Committee met at the rooms of the State Lunacy Commission, July 19, when plans were formed for the after-care of persons discharged as cured from hospitals for mental diseases. The plan was put into effect in this state July 22. Patients are paroled from the asylums, but kept under observation by physicians working with the commission. The plan will not only benefit the patients themselves, but will make room for others in the state hospitals. At present every bed is occupied and there is no other way of providing new accommodations except this until the new buildings are ready for occupation. This will be about a year and a half. The patients liberated will be provided with cards stating what days they shall report at the office of the commission. The staff of the hospitals will cooperate. If the patients improve under parole, they will finally be discharged. If they improve sufficiently to work, they will be assisted in getting it and will be held under supervision until cured entirely. Any who retrograde will be sent

back to the institutions. The $600,000 appropriated for new buildings by the late legislature does not become available until next January and building operations cannot be begun till then.

NEBRASKA

Personal.—Dr. R. S. Horton, Omaha, has been appointed city physician.——Dr. C. Frederick Stockert, Nebraska City, has gone to Europe.——Dr. William H. Johnson, convicted of criminal practice at Lincoln, has been sentenced to the penitentiary for two years.

Society Organization.—Physicians of Red Willow County have completed a county organization with the following officers: President, Dr. William E. McDivitt; vice-president, Dr. Emma M. Easterday; secretary-treasurer, Dr. Charles L. Fahnestock, and chairman of the board of censors, Dr. Julius A. Toren, all of McCook.

NEW HAMPSHIRE

Gift of a Nurses' Home.—The Exeter Hospital has recently received from Hon. Edward J. Tuck of Paris, France, an additional bequest in form of a nurses' home.

Personal.—Dr. P. Challis Bartlett, superintendent of the State Sanatorium at Glencliffe, has resigned to take charge of a Massachusetts sanatorium. Dr. John E. Runnells has been appointed to succeed him.——Dr. Charles S. Little, for several years superintendent of the School for Feeble-Minded Children at Laconia, has resigned to assume the superintendency of a similar institution in New York state. He is succeeded at Laconia by Dr. Benjamin W. Baker of Manchester.

NEW YORK

New York City

Brooklyn Charities Profit.—The will of Charles H. Armstrong, of Greenwich, Conn., leaves the Seney Hospital, of Brooklyn, $50,000 and the Methodist Home for Aged People $5,000.

Ice-Cream Cones Analyzed.—Following the recent announcement of the seizure of two consignments of ice-cream cones by the government the board of health has taken up the matter and subjected a number of specimens to analysis. The action of the board will depend on the laboratory findings.

A New Polyclinic.—Plans have been filed for the new building of the Polyclinic Hospital to be erected on Fiftieth Street between Eighth and Ninth Avenues. The building will be eleven stories with basement and subbasement, and will be about 96 feet square. This building will cost $50,000, will be modern, and will be so constructed that three stories can be added later.

Off for Europe.—Among those who have recently sailed for Europe are the following: Dr. and Mrs. Philip Embury, Dr. George M. Dillow, Dr. and Mrs. H. H. Tinker, Dr. and Mrs. Clifton Edgar, Dr. Carlos F. MacDonald, Dr. and Mrs. Robert J. Bell, and William I. Spiegelberg, president of the Sydenham Hospital, who will study public and private hospitals and ambulance services.

Mortality Increases.—The death rate for the week ending July 16 shows an increase of 2.91 per 1,000 population, or 308 more deaths than during the same week of last year. Two-thirds of the increase was due to deaths from children's diseases, the number jumping from 251 last year to 445 this year. Of this increase 191 were children under five years of age. The total number of children who died was 785, or 46 per cent. of the total deaths at all ages.

Infant Mortality in Brooklyn.—A committee consisting of Drs. Louis C. Ager, John W. Parrish, LeGrand Kerr and Archibald Smith, appointed by Dr. Lederle to investigate the reasons for the higher mortality among infants in Brooklyn, report that it is their belief that differences in the character of the soil and sewage provisions between Brooklyn and Manhattan account for the higher death rate in the former borough. Manhattan is comparatively all rock and the disposal of sewage is comparatively easy. According to this committee another reason why fewer babies die in New York is because of the efficient work of the numerous relief agencies interested in this cause.

OHIO

Systematic War on White Plague.—The board of health of Cleveland has formally endorsed a bond issue of $250,000 for a tuberculosis hospital. District dispensaries will also be opened, following the plan which has been successful in Boston.

Preliminary Requirements in Ohio.—At a meeting of the Ohio State Medical Board, July 5, it was decided to withdraw recognition from any Ohio medical college which did not require of every matriculant a certificate of admission issued by the entrance examiner of the board. It was further decided that all colleges should file with the secretary of the board a complete list of matriculants on or before November 15 of each year. Dr. G. H. Matson, the secretary, says that the above ruling is to insure that a proper preliminary education has been secured before the medical course is begun, since the latter is now too exacting to permit of secondary studies being taken at the same time.

Personal.—Dr. Henry McElderry Knower has been appointed professor of anatomy in the Ohio-Miami Medical College, medical department of the University of Cincinnati. Dr. Knower was associate in anatomy in Johns Hopkins Medical School and then assistant professor of human anatomy at the University of Toronto.——Dr. Edwin W. Mitchell has gone abroad and will return with Dr. Frank B. Cross, who left early in May.——Dr. Charles E. Howard, Cincinnati, has been appointed receiving physician at the city hospital, in place of Dr. Robert D. Mussey, resigned.——Dr. Addison D. Hobart has been named to succeed Dr. Dale Wilson as one of the city poor physicians of Toledo.——Drs. Edward F. Cushing and James E. Cogan have been named on the health board of Cleveland.——Dr. John D. Westrick has been appointed on the board of health of Defiance.——Dr. Arthur Vos was operated on for appendicitis, July 14.——The Board of Health of St. Bernard elected Dr. H. C. Krumpelbeck health officer for one year.——The trustees of Cincinnati Hospital appointed Dr. Albert J. Bell physician in charge of the new group of contagious disease buildings. It is expected that these buildings will be ready for occupancy by the first of October.

OKLAHOMA

Oklahoma in Registration Area.—Dr. John C. Mahr, president of the State Board of Health, has made application to Dr. Cressy L. Wilbur, chief statistician, Washington, D. C., to have Oklahoma included in the registration area of vital statistics of the United States.

Personal.—Dr. Horace Reed, of the University Medical School, has just returned from a year's stay in the hospitals abroad.——Dr. Archa K. West has been chosen president of the Oklahoma City Good Government League.——Dr. Lewis J. Moorman, Oklahoma City, has returned after a year in the hospitals of Vienna.

Commencement Exercises.—At the commencement exercises of Epworth College of Medicine, Oklahoma City, seven physicians were graduated. This will be the last graduation, on account of the consolidation with the State University School of Medicine, which latter school has established a third and fourth year in medicine, hitherto having only two years in medicine.

OREGON

Tuberculosis Hospital.—In connection with the proposition of Dr. George W. Turner to establish a tuberculosis sanatorium at Mount Tabor, Sister Mary Theresa, manager of the St. Theresa Open Air Sanatorium, Oak Grove, has offered a free site for the erection of a hospital for this purpose.

Work of the State Health Board.—The Oregon State Board of Health has begun a systematic campaign of education of the public in health matters, including the use of newspapers, special bulletins and lectures. A health car will be attached to the trains used to teach the farmers in agricultural matters.

Society Meetings.—The nineteenth annual session of the Southern Oregon Medical Association met at Medford recently and elected the following officers: President, Dr. Francis G. Swedenburg, Ashland; vice-president, Dr. Cora B. Lemon, Grants Pass; and secretary-treasurer, Dr. Alvane Seely, Ashland.——The Eastern Oregon District Medical Association met in Pendleton July 6 and 7. Dr. S. W. McClure, chief of the bureau of animal industry in the northwest, spoke on the transformation of bovine tubercle bacilli into the human form, and in regard to the prevalence of tuberculosis among fowls in Oregon. He stated that tuberculosis is intercommunicable between different kinds of animals and birds. The following officers were elected: President, Dr. Edward O. Parker, Pendleton; vice-presidents, Drs. L. M. Madden, Weston, and Jacob Prinzing, Ontario; secretary-treasurer, Dr. Thomas M. Henderson, Pendleton, and member of the board of censors, Dr. Frederick R. Dorn, Echo.

PENNSYLVANIA

Personal.—The managers of the Pennsylvania Epilèptic Hospital at Oakburne elected Dr. Samuel W. Morton to succeed the late Dr. Wharton Sinkler as secretary.

Women's Medical College to Build.—A building to be erected in the rear of the college hospital, will contain a clinical amphitheater for 125 students, with a waiting room for patients, sterilizing, etherizing and recovering rooms, a doctor's room and a room for students. The structure will be two stories high and will cost approximately $22,000.

New Reportable Diseases.—The State Board of Health has issued notices to the physicians of the state, requesting them to report uncinariasis (hookworm), pellagra and infantile paralysis as communicable diseases and called their attention to the laws of the state regulating such reports. An endeavor will be made to isolate and to study these diseases which have attracted such wide attention in the past few years.

Rabies Prevalent in Cattle.—Nine cows have been killed recently as the result of an epidemic of rabies which seems to be spreading over East Nottingham Township, a short distance from Oxford. The entire township is greatly excited over the prevalence of the disease. A large number of cows and horses, and nearly every dog in the township, are under a strict quarantine. State Veterinarian S. H. Gilliland is conducting an investigation.

Department of Abnormal Psychology.—Announcement has been made that the University of Pittsburg will establish in connection with its medical department a laboratory and school for the study of backward children. The scope of the work will include psychologic studies of mental defectives and delinquents, both children and adults, epileptics and the nervous unfit of all kinds. It will also include work in the university laboratories and the training of nurses and prospective teachers in work of this kind. The work will be under the direction of Prof. J. H. White of the department of psychology, Dr. Edward E. Mayer of the department of neurology, and Dr. E. Bosworth McCready will be the medical director. The school is to be called the Hospital School for Backward Children.

Infantile Paralysis at Bethlehem.—Until a few days ago there were twenty-one well-developed cases of anterior poliomyelitis reported at Bethlehem and vicinity. The epidemic has caused widespread interest and renewed efforts are being made to discover the cause of the disease. Commissioner Samuel G. Dixon and Drs. Royer and Fox, of the State Board of Health, are pursuing a thorough investigation of every case reported. In only one instance has there been any circumstances indicating that the disease may be of an infectious character. A child 2½ years old was stricken with paralysis shortly after using milk from a herd in which one of the cows had lain in pasture for several days with paralysis of the hind-quarters. A week later the child was taken sick and developed a paralysis of the right leg and left arm. There has been but one death from the disease in the past few weeks. Dr. Charles K. Mills of Philadelphia and Dr. Paul Lewis of Phipps Institute are conducting personal observations of the outbreak. Dr. Simon Flexner of the Rockefeller Institute, New York, will study the cases.

Philadelphia

Personal.—Dr. George Bachmann, demonstrator of physiology at Jefferson Medical College and physiologist to the Jefferson Hospital, resigned to accept the professorship of physiology at the Atlanta College of Physicians and Surgeons.——Dr. Victor Baker, resident physician at Frankford Hospital, was operated on for appendicitis July 17.——Dr. Charles K. Mills addressed the Lehigh Valley Medical Association at Delaware Water Gap, July 21.

Mortality Increases.—Statistics show an increase in the general mortality from 13,264 to 14,425 for the first six months of the present year, an increase of about 9 per cent. as compared with 1909. This increase is made up largely of deaths from diseases of the lungs, particularly pneumonia, and of intestinal diseases in children under 1 year of age. Of the more important diseases the difference in percentage over 1909 for the six months ending June 30, was as follows: Typhoid fever, decrease, 28; measles, decrease, 68; scarlet fever, increase, 27; whooping cough, increase, 81; diphtheria, decrease, 15; influenza, decrease, 4; cerebrospinal meningitis, decrease, 80; rabies, increase, 200; tetanus, decrease, 70; tuberculosis of the lungs was practically the same. Other forms of tuberculosis increased 3 per cent.; apoplexy increased 28 per cent.; heart disease increased 15 per cent.; pneumonia increased 30 per cent.; Bright's disease decreased 2 per cent.; Bright's and enteritis increased 67 per cent.; suicide increased 2 per cent.; cancer increased 3 per cent.

TENNESSEE

College Suspended.—By action of the trustees of the University of Chattanooga, so it is reported, the relationship between that university and the affiliated Chattanooga Medical College has been cancelled, and the medical college has been suspended. There is talk of a new college being organized in its stead.

Personal.—Dr. William N. Lynn has been appointed superintendent of the Lincoln Memorial Hospital at Knoxville, vice Miss E. L. Westover.——Dr. May F. Jones, Columbus, Miss., has assumed the duties of superintendent of the recently formed Civic League Hospital at Memphis.——Dr. Gilsey Saunders has been appointed health officer at Jackson.——Dr. Walter R. Wallace has become associated with Dr. George E. Pettey in the sanitarium at Memphis. A forty-room addition has been built.——Dr. John S. B. Woolford, Chattanooga, sailed for Europe July 16.

Society Meetings.—The thirty-second annual session of the Middle Tennessee Medical Association convened at Nashville recently. The following officers were elected: President, Dr. Ernest M. Holmes, Readyville; vice-president, Dr. John W. Stevens, Nashville; and secretary-treasurer, Dr. R. Logan Jones, Nashville (reelected).——The West Tennessee Medical Association met at Nashville recently and elected the following officers: President, Dr. David A. Walker, Trenton; vice-presidents, Drs. Alexander H. Moody, Dyersburg, and William T. Black, Memphis, and secretary, Dr. Isaac A. McSwain, Paris (reelected).——The fifth annual meeting of the State Colored Physicians' Medical Association occurred at Knoxville, June 22 and 23. Nearly one hundred physicians were in attendance. Chattanooga was chosen as the place of next meeting. The following officers were elected: President, Dr. Henry M. Green, Knoxville; vice-presidents, Drs. J. D. Frierson, Chattanooga; Joshua S. Williams, Franklin, and W. T. Prater, Memphis; recording secretary, Dr. I. H. Hampton, Fayetteville; assistant secretary, Dr. W. H. Astrapp, South Pittsburg; corresponding secretary, Dr. A. M. Townsend, Nashville; treasurer, Dr. J. B. Singleton, Nashville, and statistician, Dr. J. A. Gregory.

UTAH

Salt Lake City

Cancer.—While the increasing prevalence of cancer is generally admitted it is not often reported as a leading cause of death in any community. Such was reported to be the case, however, in Salt Lake City in May. According to the health officer, the deaths from cancer outnumbered those from any other single cause, exceeding those from tuberculosis.

Personal.—Dr. John M. Spaulding has been appointed police surgeon, under the direction of Dr. Samuel G. Paul, city health commissioner.——Dr. John Sundwald, professor of anatomy in the University Medical School, is in Europe.——Dr. J. W. Calkins was seriously injured in an automobile accident recently.——Dr. T. H. Glenn has been made bacteriologist in Northwestern University Medical School, Chicago.——Dr. Frederick Stauffer is in Vienna.——Dr. Augustus C. Behle has gone to Germany for a long stay.

VIRGINIA

Addition to Hospital.—A $26,000 addition to the Protestant Hospital at Norfolk was opened recently.

Personal.—Dr. Robert L. Payne, Norfolk, has been appointed chief surgeon of the Norfolk Southern Railway.——Dr. Robert G. Heiner has been assigned as physician to the Navy Hospital at Norfolk.——Dr. J. Edward Brumbach, who was a resident at the Maryland General Hospital, Baltimore, has been appointed an assistant resident of the Eastern State Hospital, Williamsburg.

Health Officers Organize.—The health officers of eastern Virginia met at Norfolk and organized the Association of Health Officers of Tidewater. Dr. Henry R. Dupuy, health commissioner of Norfolk, was elected president; Dr. Thomas J. Pretlow, Newport News, vice-president, and Dr. Herbert R. Drewry, Norfolk, secretary. The association will hold monthly meetings.

Work of State Board of Health.—The State Board of Health met at Richmond July 15 and reorganized under the new health law passed by the recent session of the legislature. Dr. William M. Smith, Alexandria, was elected secretary to

succeed the late Dr. Samuel Peachy Latane, Winchester. The board formulated regulations concerning the reporting and quarantine of infectious diseases, disinfection and sanitation of public school buildings, railway coaches, stations, theaters, etc., in accordance with the new law.

University Medical College to Rebuild.—It is reported that the University College of Medicine has determined to erect a new medical building in place of the one destroyed by fire last January. The estimated cost of the new building is $100,000. Thus Richmond is still to have two medical colleges.——At the meeting of the faculty and trustees, July 16, all the members of the faculty resigned in order to leave the board of trustees free to readjust the professorships so as to meet the needs of the curriculum. Only a few changes were made in the personnel but some transfers were made. Dr. Stuart McGuire continues to be the president of the faculty.

Society Meetings.—The Medical Society of Northern Virginia and the District of Columbia met at Manassas recently and elected the following officers: President, Dr. A. Barnes Hooe, Washington, D. C.; vice-presidents, Drs. Edwin L. Detweiler, Herndon, and Powhatan Moncure, Bealeton; recording secretary, Dr. Arthur G. Coumbe, Vienna, and corresponding secretary, Dr. Charles S. White, Washington, D. C.——Shenandoah County Medical Society, at its last meeting, was addressed by Dr. Harvey W. Wiley, Washington, D. C. The following officers were elected: President, Dr. Durus D. Carter, Woodstock; vice-presidents, Drs. Mackall R. Bruin, Strasburg, and David L. Shaver, Maurertown; secretary-treasurer, Dr. William F. Driver, Newmarket.

Dr. Stiles Addresses Conference.—At the meeting of the Rural Life Conference, held in Charlotte July 16, Dr. Charles Wardell Stiles, Washington, D. C., addressed the conference on hookworm. The newspaper account says: "Dr. Stiles stated that his work in the hookworm investigations for a number of years past had obliged him to live among the poorest of the poor in the poorest districts of the South, in fact, to become essentially one of them. In these homes of abject poverty, with many children inadequately clothed and fed, it was a common sight to see expensive patent medicines occupying a prominent place on the shelf. One family in South Carolina, whose bread-winner earned $15 a month, spent $6 of it in a patent medicine advertised under a tissue of lies. These poor people, suffering from insufficient food, malaria, hookworm and in thousands of cases from tuberculosis, were preyed on by a lot of liars who distribute a concoction of alcohol at an enormous profit to a people too ignorant and too sick to protect themselves."

LONDON LETTER

(From Our Regular Correspondent)

LONDON, July 16, 1910.

Death of a Victim to the X-Rays

The sad case of Mr. Harry W. Cox, an electrician and instrument maker, who worked with the *x*-rays and devised many instruments for their use in medicine, has been reported from time to time in previous letters to THE JOURNAL. Eight years ago *x*-ray dermatitis began on the left hand. At that time the dangerous nature of the affection was not understood and little notice was taken of it. Slowly the disease advanced and five years ago a finger had to be amputated. Gradually the left hand was also attacked and eighteen months ago the greater part of it, including three fingers, had to be removed. Still the disease progressed and last September amputation of the right arm was performed. In the meantime, Mr. Cox, undaunted, continued work and perfected many of his inventions. Finally the neck and face were involved and he died at his residence in London, July 14. While lying on his death bed he said: "I would gladly go through it all again to accomplish what I have been permitted for the benefit of my fellow men." So much sympathy did his case arouse that a fund of $14,000 was raised by public subscription for his benefit and the government made a grant of $1,000. His case is the most striking example of the dangers run by the earlier workers with the *x*-rays and shows the necessity of the precautions which are now adopted.

Medical Education for Hindus

The National Medical College of India has been founded for the medical instruction of natives who cannot afford the heavy fees of the recognized colleges which are state-aided. A very respectable list of examiners and professors is published which includes a number of lieutenant-colonels retired from the Indian Medical Service. The period of study is five years. The following diplomas will be awarded: 1. The F.C.P.S. (Fellow of the National College of Physicians and Surgeons), an honorary title to be conferred on scientists of distinction. 2. The M.C.P.S. (Member of the National College of Physicians and Surgeons). 3. The L.M.S. (Licentiate in Medicine and Surgery). 4. The D.P.H. (Diploma in Public Health), for health officers. The most remarkable feature about the college is the fact that professors give their services gratuitously. As the prospectus says: "We train our boys under the best masters with European and local qualifications, who labor for the college at a great sacrifice, the welfare of the scholars being their only reward." The fees constitute a record and are probably the lowest under the sun. They are as follows: Admission fee, Rs. 3 (about $1); for the L.M.S. class the same fee per month; for practical classes and dissections the fee for the session is Rs. 5.

A Steamer With Special Mosquito Screens

The Booth Steamship Company of Liverpool has despatched a boat on her maiden trip to the Amazon specially designed to cope with the mosquitoes which often fly aboard and cause malaria on that river and its tributaries. The steamer is designed purely for cargo which she carries to Port Velho, a town 600 miles up the Rio Madeiro, a tributary of the Amazon, on which the mosquito evil is so great that nearly the whole crew of steamers is sometimes laid up with malaria. The steamer is so screened that the living quarters of the crew are protected from mosquitoes. Each port-hole is provided with a movable screened frame so adapted that the port-hole can be closed and screwed down without withdrawing the screen. The entrances to the main deck are protected by wire gauze spring doors, and at each side of the ash-shoot, which is necessarily open to the ingress of mosquitoes, extra sets of screened doors are placed. The doors and port-holes of the outside bridge deck cabins are also screened. The doctor's quarters and hospital are situated further aft and are thoroughly screened. No old-fashioned water reservoir over the wash-basin is permitted in the cabins; running water is supplied. The slops from the basins run into pipes emptying directly over the side. The ventilator pipes in the cabins and along the alleyways are protected by a wire gauze screened frame. The steamer has been inspected by the medical advisory board of the African Committee of the Colonial Office and by Prof. Ronald Ross and is considered by them a great advance in the construction of ships plying in tropical waters.

Coroner's Law and Death Certification

A bill has been introduced into parliament, backed by several medical members, including Sir William Collins, to amend the antiquated law of coroner's inquests and death certification. As long ago as 1893 a committee of the House of Commons reported that reform was urgently necessary. The law relating to coroners is not adapted to modern necessities, its administration is costly, without being efficient. The law of death certification offers every opportunity for premature burial and every facility for the concealment of crime. Among the more important provisions of the bill are the following: No person shall be appointed a coroner unless he be a practicing barrister or solicitor of not less than five years' standing, or a registered medical practitioner who is also a barrister or a graduate in law. Medical investigators or pathologists are to be appointed to assist the coroner in his inquiries and to make postmortem examinations. It shall not be necessary for the jury to view the body, unless the coroner or a majority of the jury shall deem it necessary. At present the viewing of the body is obligatory and is to many jurymen very objectionable. Before giving a certificate of death a doctor must personally inspect the body and identify it as the person named in the certificate whom he has attended in his last illness and shall certify as to the fact of death as well as to its cause. At present the doctor is required to certify only as to the cause of death and can accept the fact of death from the friends of the deceased. He is not bound to view the body. The coroner is given power to hold an inquiry and have a postmorten examination made without holding an inquest, which he cannot do at present. A valuable reform is that instead of, as at present, giving the death certificate to the friends of the deceased for the purpose of registration the doctor is to mail it direct to the registrar. The present system leads to inaccurate certification. Thus to spare the feelings of the relatives such causes of death as syphilis and alcoholism are sometimes suppressed and only the name of the lesion, such as cirrhosis of the liver or apoplexy is given.

PARIS LETTER

(*From Our Regular Correspondent*)

PARIS, July 15, 1910.

Preservation of Vaccine by Refrigeration

Dr. Kelsch, director of the school of military medicine and pharmacy at Val-de-Grâce, read before the Académie de Médecine on July 12 a paper in regard to the influence of cold on the preservation of the activity of vaccine pulp. In collaboration with MM. Camus and Tanon, Dr. Kelsch made the following experiments: Two samples of vaccine pulp were deposited in May, 1909, one in a refrigerator maintaining a constant temperature of —12 to —15 C., and the other in an ordinary refrigerator kept at an average of +5 to +7 C. Then at the end of six months and a year, respectively, the samples were submitted to a comparative cytologic, bacteriologic, biologic and clinical analysis. The one which had been kept at +5 had lost most of its activity at the end of six months and all of it at the end of a year. On the other hand, the other sample was still entirely active at the end of six months and a year. Excellent results were obtained in each of nine children who were vaccinated with this pulp. These results not only indicate the resistance which bacteria oppose to very low temperatures, but also point out a practicable means of providing vaccine against such occurrences as that in Paris in 1907, when the public was literally terror-stricken before the menacing epidemic.

Sale of Morphin without a Prescription

A pharmacist was recently prosecuted for having sold morphin without a prescription to a student in Nancy, through whom a companion obtained it and thereby became addicted to the use of the drug. The father of the victim brought suit for damages against the pharmacist who made the plea that he was responsible for his own act only, and not for that of the student who had procured the morphin for his companion. The court refused to sustain his plea and condemned the pharmacist to pay $20 (100 francs) as a fine, and $800 damages on the ground that a pharmacist who sells a poisonous substance without a prescription knowingly incurs the risk of whatever bad use may be made of it, whether by the person who buys it or by a third person.

Personal

Dr. A. Gilbert, professor of therapeutics at the Paris college of medicine, has been appointed at his own request, beginning Nov. 1, 1910, professor of clinical medicine, to replace Professor Dieulafoy.

Society of Abstaining Physicians

In connection with the first Congrès des abstinents français, which will meet on August 13 at Grenoble, some physicians have just formed the Société des médecins abstinents des pays latins.

A New Sign of Hydatid Cysts of the Convexity of the Liver

On July 5 at the Academy of Medicine Professor Chauffard drew attention to a new clinical sign that he has recently observed in a patient with an enormous hydatid cyst of the liver which came up to the third rib. The left hand being placed transversely in front at the level of the second and third right intercostal spaces, and the fingers of the right hand grasping the border of the right hepatic lobe, the cystic liver mass is agitated from top to bottom with a series of little oscillations. At each oscillation the left hand perceives a light concussion (*ballotement*), at the level of the tense and enlarged intercostal space. This sign can be obtained only in front and with the patient in a horizontal position. This superhepatic concussion supplements the sign described last year by M. Chauffard for hydatid cysts of the convexity of the liver under the name of transthoracic wave (*flot transthoracique*, THE JOURNAL, July 24, 1909, p. 308).

The combination of the two modes of exploration permits, so to speak, the measurement of the cystic mass of the liver, the sign of the wave giving the antero-posterior diameter and that of the concussion the vertical diameter. The solid hypertrophies of the liver, even if they are very voluminous, do not appear to give the superhepatic concussion.

The Color of the Hair from a Judicial Point of View

M. Bertillon, head of the anthropometric service, has just established a table in which he has displayed at the Brussels exposition the scale of the colors of the hair so that they may be clearly distinguished. The expressions "light blond," "true blond," "dark blond," "light chestnut," "true chestnut," "dark chestnut," "chestnut black" and "black" have been assigned to fixed shades in regard to which there will be agreement everywhere hereafter. M. Bertillon has expressed this notation of colors by means of samples which have been furnished him by a large dealer in hair goods. He has collected a quantity of hair of all shades so as to be able to make a number of tables illustrating colors. These tables, which are in demand everywhere, will be sent to all the judicial services of Europe; thus it will hereafter be impossible to make an error in regard to the shades of hair since these will be the same in all judicial services.

BERLIN LETTER

(*From Our Regular Correspondent*)

BERLIN, June 7, 1910.

Plan Suggested by Koch, Hitherto Unpublished, for Research on the Infectious Character of Bovine Tubercle Bacilli

The question which was raised anew by the address of Robert Koch at the London International Congress of Hygiene, as to how far bovine tubercle bacilli are present and produce tuberculosis in man, is not yet solved, but is still the subject of numerous investigations in the laboratories of different civilized countries. Koch himself was continuously occupied with this question, from the study of which he was prematurely removed by death. He had developed a plan for the investigation of pulmonary tuberculosis which has been presented to various investigators for their consideration. The precautions outlined, which have not hitherto been published, are as follows:

1. The consumptives whose sputum is to be examined must not eat any butter during the period of investigation for at least three days before each collection of sputum and must take only thoroughly boiled milk. The circumstances should be such that the examination can be repeated three times. The sputum should be deposited in sterilized receptacles in the morning before eating.

2. The examination of sputum should be repeated at least twice, at intervals of from 5 to 15 days, so that altogether three examinations are made.

3. The sputum is to be injected subcutaneously into four guinea-pigs in the neighborhood of the groin.

4. As soon as the inguinal glands of the inoculated guinea-pigs are so much enlarged that tuberculous processes are to be suspected in them, two of the guinea-pigs are to be killed and from each a piece the size of a hemp seed from the suspected tuberculous glands or from the substance of the spleen is implanted subcutaneously on a rabbit's abdomen. At the same time, cultures on glycerin serum are to be made from the same material.

5. The tubercle bacillus is to be cultivated in guinea-pigs until the type is determined.

6. Cultures on glycerin serum and inoculation of rabbits are to be made from the lungs and kidneys of such rabbits as die of generalized tuberculosis, or in which, on killing three months after the inoculation, progressive tuberculous processes are found. At the autopsy of the rabbit, special attention is to be paid to the regional lymph glands to determine whether they are tuberculous.

7. Two rabbits are to be injected subcutaneously with 0.01 gm. of a culture derived from the inoculated guinea-pig, suspended in 1 c.c. of physiologic salt solution.

8. If by the behavior of the cultures and the appearance of generalized tuberculosis in rabbits, the presence of bovine tubercle bacilli seems to be demonstrated, a further injection of 0.01 gm. of the culture should be made in the neck of a calf in order to exhaust all means of evidence. If exceptionally it shall have been impossible to obtain a pure culture, the tuberculous material from the rabbit must be applied to the inoculation of the calf.

9. In case bovine tubercle bacilli have been found in a consumptive, it is necessary to repeat the examination as often as possible. As soon as an opportunity for autopsy is furnished, various parts of the lung, the bronchial glands, the cervical glands, and the abdominal organs should be examined for bovine tubercle bacilli. In all such cases especial care should be taken to recognize a mixed infection with human tubercle bacilli.

In the same way the question is to be answered to what extent lupus owes its origin to infection with tubercle bacilli of the human or the bovine type. In this respect also Koch has worked out directions for obtaining and injecting the material. In this case the propagation of the particular race of tubercle bacilli in pure culture is necessary.

As a direct culture of tubercle bacilli from lupus tissues is not possible on account of their extremely small number, a multiplication of the tubercle bacilli in the bodies of guinea-pigs must precede the pure culture. The injection of the material into guinea-pigs should be made at the place where the material is obtained and as soon as possible, because the result of the inoculation becomes uncertain in case of a long delay between the removal and the inoculation.

As material for investigation, only such places of the lupus tumor are suitable as show clinically a progress of the disease in the form of fresh nodules; untreated cases furnish the best assurance of the success of the propagation. In old lupus cases which have been treated for a long time, it should be noted whether in addition to the lupus foci on the visible parts of the body which have been subjected to medical treatment there are not also lupus foci on other parts (back and extremity) which often are unnoticed by the patients and for that reason untreated.

In every case the pieces should be taken from the most recent and untreated parts of the lupus tissue at the border of the lesion. The size and number of the excised pieces of the skin must be determined according to the clinical picture of the case. The larger the piece of skin excised, or the greater the number of excised pieces, the more surely can a positive result be expected from the injection of the material in guinea-pigs. Sufficient material must in every case be taken for the inoculation of at least 2 guinea-pigs, so that for every guinea-pig a piece of about the size of a hemp seed is available; if possible 3 or 4 guinea-pigs should be inoculated. In patients with lupus foci in different parts of the body, material for examination should be separately removed from each focus of the disease and injected separately into at least 2 guinea-pigs each.

In the case of simultaneous injection of material from several patients or from several foci in the same patient, the inoculated guinea-pigs should be distinguished by permanent marks (for instance, by distinguishing staining with carbolfuchsin on the head, neck, back or extremities).

The inoculation of the guinea-pig is done in the following manner: In the middle of the flat portion of the abdomen, the hairs are cut short in a place as large as a mark piece (silver quarter); here after rubbing with alcohol, a cut is made in the skin through which the point of the shears or a pair of forceps are pushed and into the little pocket thus made in the skin, the material under investigation is introduced by means of forceps. The wound in the skin is closed with collodion. Observation of the most careful asepsis is strictly essential; especial care must be taken to see that the instruments are changed with the injection of each new sample of material. Inoculated guinea-pigs are to be sent immediately after the injection to the Berlin institute for infectious diseases (Berlin N, 39 Föhrerstr. 2.), accompanied by a report containing a brief record of the name, age, sex, and occupation of the patient, situation, age, and clinical picture of the lupus, as well as of the previous treatment, source of infection, and other forms of tuberculous foci, and a protocol of the animal inoculation.

Personal

Professor v. Strümpell, director of the third medical clinic at Vienna, has accepted a call as the successor of Curschmann. Among the factors influencing his decision to exchange Vienna for Leipsic were the uninspiring conditions of his Vienna clinic and the wish to return to his paternal city and to work in the place of his teacher, Ernst Wagner. Strümpell was called from Leipsic to Erlangen as professor, and for many years conducted the medical clinic there. From there he went about six years ago to Breslau and from there two years ago to Vienna. When von Leyden's chair became vacant three years ago many expected in vain that the Berlin faculty would place Strümpell's name on the list of candidates to succeed Leyden. I believe that to-day our faculty has reason to regret that it did not secure this distinguished clinician and highly honored man as one of its members.

General Medical Officer Dr. Vollbrecht has received a call to Constantinople to reorganize the very imperfect sanitary conditions of the Turkish army.

July 1, Professors Langgaard and Rabow resigned the editorship of the *Therapeutische Monatshefte*. In conjunction with Professor Liebreich they founded this journal about thirty years ago. Now they have been compelled to yield to younger talent.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, July 12, 1910.

Strümpell Leaves Vienna

The half-hearted way in which the requests of Professor Strümpell for modern outfit for his clinic were met by the authorities has had an unexpected result. The professor has "given notice;" he will leave his post at once to accept the appointment of clinical professor in Leipsic, as successor of Curschmann. To understand the sensational effect of this decision, one must understand that Strümpell had been won for Vienna only with great difficulty, and that promises had been made to him, which if fulfilled, would have enabled him to develop the third Vienna medical clinic according to his ideas. When he took over this present office a year and a half ago, as successor of Schrötter, he was received with the greatest pleasure by the students, who wanted to obtain a first-class teacher. Numerous bureaucrats and professors who thought it unnecessary to call another man from Germany, were less pleased with his appointment. And von Strümpell always found that he was regarded as an outsider by many men. Among the students, however, he was much beloved and respected, and his patients always praised his kind and benevolent manners. Strümpell's idea was to make Vienna a Mecca of first-class clinical teaching. Instead of being assisted in every possible way by the authorities, he has been hampered all along. Naturally, he lost all pleasure and seized the first opportunity to leave a place where his abilities were not regarded as sufficient to warrant a little disregard of routine and red tape in monetary questions. His loss is another sign that science cannot hope to progress if bureaucracy is prevalent.

The Question of the Successor of Zuckerkandl

The anatomic institute has been left without director by the death of Professor Zuckerkandl, but his successor will be soon appointed. Out of all the men able to fill the post, only three are actually eligible at present. They are Rabl, in Leipsic, Grosser, in Prague, and Tandler, in Vienna. It is the custom in this country, whenever a new medical teaching appointment has to be made, for the senate of the university to call the attention of the ministry of education to at least three men, named in order of preference. Very seldom is one man recommended as the first and only candidate. This has been the case just now, when Professor Tandler has been presented by the senate. He has been for the last four years *locum tenens* for Zuckerkandl, who was obliged by illness to abstain from all but very slight work. Tandler has gained the esteem and the attention of students and scientists alike during the time he has been active in the anatomic department. It is not impossible, however, that some outsider will be appointed, for it has happened sometimes that influences more powerful than scientific requirements have been able to outweigh the recommendation by the senate.

Scarcity of Hospital Beds in Vienna

Owing to the lack of private charitable institutes and the well-known parsimony of the government, it is always difficult in this city to obtain hospital accommodation even in urgent cases. It is true that when the new clinics and the jubilee hospital are completed, 3,300 beds will be added to the present number, but altogether there will be, even then, only some 8,000 hospital beds (not including asylums) available for a population of 2,000,000. A very instructive paper by an official, describing these impossible conditions and demanding immediate help, has appeared in a medical and a lay paper. The author, who is in a position to know, states that out of every fifty demands for a bed only fourteen can be complied with. In many wards two or three children have to sleep in one bed, or mattresses and blankets are placed on the ground to enable more patients to be accommodated; convalescents have to be dismissed at the very earliest opportunity. Furthermore, it is the custom to clean the wards thoroughly in turn every summer when the number of applications is smaller, owing to the absence of diseases of the respiratory organs, the better weather conditions and similar reasons. Therefore, between June and September many wards are partially or totally out of use, and between 20 and 25 per cent. of the beds are thus out of the reckoning. The very unusual weather conditions of this summer in Europe, with the high percentage of total rainfall and moisture, the low average temperature and the strong winds have caused an excessive demand for hospital beds, doubly felt because of these facts. These conditions, abominable as they are, have been apathetically regarded as inevitable, until it became known that a few days

ago a mother, applying for admission with a baby in her arms, could not find a bed in the hospital and was found dead next morning in the street with her dying baby still in her arms. Public comment soon took hold of the gruesome incident, and the fact that even tuberculous patients have to wait for weeks and months for admission was severely criticized. In the presence of such scarcity of beds, while the patients die in the streets, state and municipality quarrel as to who has to find the necessary funds.

Miscellany

THE WORK OF NEW YORK'S TUBERCULOSIS CLINICS

A Critical Study of Its Own Work Made for the Association of Tuberculosis Clinics

Prior to 1908, New York City had a number of tuberculosis clinics, either separate or connected with other dispensaries and clinics supported by the city, each of which had a different equipment and a different plan of handling and treating patients. In January of that year the Association of Tuberculosis Clinics was formed to coordinate the work of the nine tuberculosis clinics then existing, to increase the number of clinics, and to limit the overlapping and duplication in work which had previously been common, and also to establish uniformity as nearly as possible in methods of examination, records, clinic rules, etc. The result of the study of this association of the New York clinics is embodied in a 90-page pamphlet* by Miss F. Elizabeth Crowell, the executive secretary, setting forth in some detail the work of the clinics, and making recommendations for improvement and uniformity in the service. The information gathered was included under eight heads: General information, hygiene of clinic, clinic facilities, general policy of administration, routine method of treatment, nurses, children's clinic and day camps.

The oldest clinic was established in 1894, a second in 1895 and the third in 1902, and one or more yearly since that date. Some treat certain nationalities almost exclusively. Five clinics are connected with city institutions and these and two private clinics are free. In some others a nominal charge of 10 cents is made for registration, medicine being furnished free. Three are independently organized. All the others are operated as departments of existing hospitals or dispensaries. Four clinics have day camps connected with them, and three have regularly organized children's classes. Four clinics have women's auxiliaries which contribute toward the relief of destitute clinic patients, and in various ways supplement the work of the clinics in the homes.

In respect to hygiene, the clinics were found to differ widely in their routine methods, in the matter of the care of sputum, cuspidors, disinfecting solutions, furnishing of gauze or paper handkerchiefs and their disposition; methods of providing drinking water, by sanitary fountains, sanitary cups, etc., periodical fumigation of the clinic rooms, etc. In some clinics neither gowns nor aprons are worn by the physicians, while in others washable gowns are used. The same applies to the nurses. At only two clinics was any attempt made to protect the physician while he was examining the patient. The clinics differed most widely in the amount of room space used for the tuberculous patients. The Department of Health clinic, the largest, having one month 1,264 patients under treatment, has ten rooms, twelve physicians, exclusive of the chief, and seven nurses. The clinic is open six days a week, with two sessions a day and one evening a week. The average amount of time available for each patient was seventeen minutes. For its 626 patients Bellevue has two rooms, nine physicians and four nurses. The amount of time of the physicians available for each patient is about twelve minutes. Some of the clinics have enough space, but many are overcrowded.

As to general administration, at five clinics the initial examination is made in the general medical clinic of the dispensary; at others it is made in the tuberculosis clinics. At only four clinics are records kept of patients on discharge, and it is in respect to the keeping of the records that there is the greatest lack of uniformity, although this has been repeatedly urged. A uniform system of records has been employed in Brooklyn, greatly facilitating the transfer of cases. Some use cards, others sheets or books.

At all clinics the temperature, pulse and weight of patients are taken at each visit, and some record information from visiting nurses. All but three use the tuberculin test. The average time patients are kept under observation pending diagnosis is one month. A negative sputum diagnosis is disregarded. There is no uniformity as to reexaminations of sputum. The usual time of making an examination is about five minutes. At some clinics throats are examined and treated regularly.

The number of nurses varies from one to seven, and their time is divided between actual clinic work, clerical work and visiting work. The educational value of the visits of the nurses on patients and family is considerable, and the nurses should be trained in social work. Children attend the general clinics at dispensaries which do not have separate clinics for children. Day camps for use of patients needing sanatorium treatment, but unable to leave the city, in some instances are provided on ferry boats in the river, or on roofs, etc., and connected with each is a day school under the charge of a graduate nurse and a teacher assigned by the Department of Education. It has been suggested that each clinic arrange for a visiting physician to bed cases on the recommendation of the visiting nurses.

The statements of the physicians and nurses connected with the various clinics and the testimony of those investigating conditions are that the most pressing needs are more space, more physicians, more nurses and a more satisfactory organization of relief work for destitute clinic patients. Vast improvement, however, has been effected in recent years. Formerly tuberculosis patients were rushed through overcrowded general medical clinics, no special consideration being given them. Only four clinics kept a record of the condition of patients on discharge, but as an indication of the benefits resulting from clinic treatment, the following figures are of interest: Bellevue reports for 1909 that of 1,369 patients discharged, 3 per cent. were apparently cured, 4 per cent. arrested, 24 per cent. improved; 66 per cent. were progressive and 3 per cent. died. Gouverneur reports that of 301 patients discharged, 1.6 per cent. were apparently cured, 4.3 per cent. arrested, 33.8 per cent. improved; 41.5 per cent. unimproved, 15.6 were progressive and 2.6 per cent. died.

As a result of the whole investigation, the Board of Directors formulated, among others, the following recommendations concerning the tuberculosis cases and their handling: That patients while waiting admission to the clinic rooms should be separated from the other dispensary patients; that in all rooms large signs in several languages be displayed giving detailed information as to caring for the sputum; that sputum cups be furnished to take home; that paper or gauze handkerchiefs be furnished for use at the clinic, with receptacles for their disposal; that no cuspidors be used; that sanitary drinking fountains or paper drinking cups be furnished; that furniture as well as walls be washed daily; that gowns with sleeves be worn by physicians and nurses; that capes of washable material be furnished patients while disrobed awaiting examination. It is also recommended that each clinic shall have one room for interviewing patients, one for examining women and one for men. There are other recommendations concerning the use of the rooms by the social workers for private conferences with patients, for the care of the physicians' and nurses' coats and gowns, and details as to the equipment of each dispensary, and that the number of physicians in attendance shall be sufficient to allow at least fifteen minutes for examination of new cases exclusive of history taking, and at least six minutes for every old case, with a nurse for every 100 patients on the clinic register. The general policy of administration should seek to arrange for a physician to visit and treat in their homes patients too ill to attend, for the establishment of separate children's clinics wherever possible, and that patients be classified and treated in groups; also that a uniform procedure be adopted regarding

* Copies of this report may be obtained by writing to the Association of Tuberculosis Clinics, 105 E. 22nd St., New York City.

time of transfer from one clinic to another, frequency of reexamination of sputum and of patients; as to the use of the nurses' reports of home conditions as a basis for advising patients, as to the transfer of cases living out of the district, as to record-keeping and record-filing in clinics and day camps, record of condition on discharge, and that the classification of the National Association be employed for recording the stage of the disease and condition on discharge. As to nurses the recommendations are that all supervising nurses shall be affiliated with some local relief organization, and that nurses in the clinics shall have training in social work, and that the home of every patient should be visited at least once a month.

This careful and critical study of the clinics, their material conditions, shortcomings and needs is a valuable one, and the recommendations if carried out would vastly improve the efficiency of the antituberculosis work in New York. It will also serve as a practical guide in tuberculosis work in other communities, revealing the shortcomings of lack of thorough system and emphasizing the importance of cooperation and uniformity of methods, records, etc. System, thoroughness and uniformity of method are especially essential to any considerable degree of efficiency in this work.

Post-Mortem Findings in a Case of Pellagra.—Aldred S. Warthin (*Physician and Surgeon*, xxxii, No. 1) reports the post-mortem findings in a case of pellagra. The patient was a German woman who had lived in Wisconsin in early life and later in the South. She had always eaten corn-meal mush until the appearance of the symptoms of pellagra, when she developed an aversion to it. Two years before death she developed gastro-intestinal diarrhea and skin lesions over the abdomen, face, back of the hands and other parts, in general resembling erythema, with little vesicles developing into pustules. The palms and soles were the only portions free from lesions. The general symptoms were increasing weakness, anemia, a dragging walk, somewhat spastic in character, and an increasing mental confusion, which was recognized and commented on by the patient. She was emaciated and the blood showed a moderate secondary anemia. The reflexes were all exaggerated. Just before death she had a few convulsive attacks and died rather suddenly. The autopsy material received from this case consisted of the dorsal portion of the spinal cord, portions of the internal organs, and skin taken from pieces of discoloration. Microscopic examination of the skin showed practically the changes observed and reported by Lombroso. There was a very marked atrophy of the dermis and all its structures. One of the most striking features was the scarcity of cells. The horny layer of the epidermis was thickened, while the stratum granulosum and the rete showed extreme atrophy. In some places the heavy layer seemed to lie directly on the rete. At intervals there were small minute fissures or ulcers extending into the dermis. The blood-vessels were sclerotic, and the nerve trunks appeared to be atrophied. Examination of the spinal cord was disappointing in that it showed but little change. The marked changes reported by Lombroso were not found in this case. There was no marked sclerosis, and very slight degeneration. The meninges, however, were thickened and sclerotic, and some of the vessels of the cord showed sclerosis. The kidney showed a very striking atrophy of the renal epithelium, with thickening of the capsules of some of the glomeruli. There was chronic passive congestion and some sclerosis. The liver showed chronic passive congestion, atrophy and sclerosis of some of the vessels. The spleen showed the most striking changes. The follicles showed marked degeneration and necrosis of the germ cells followed by a hyaline change, many of the glomeruli being replaced by hyaline lump masses. The vessels also showed marked sclerosis. The degeneration of the follicles was very similar to that seen in diphtheria, burns of the skin, pulmonary gangrene, and of ulcerating carcinoma of the intestine, and must be interpreted as the result of some intoxication. Lombroso speaks of fibrinous exudates in the spleen, but staining for fibrin did not reveal the presence of any in this case. In general, the examination of the material showed a picture of general chronic intoxication, with special lesions in the skin and spleen.

The Transmission of Trypanosoma Lewisi by the Rat-Flea.—The experiments of E. A. Minchin and J. D. Thomson (*Proc. Roy. Soc.*, London, Feb. 3, 1910; *Nature*, Feb. 10, 1910, p. 447) would indicate that trypanosomiasis may be transmitted by the flea. In these experiments the *Trypanosoma lewisi* and the rat-flea were used and the methods of transmission were closely studied. The fact of transmission was confirmed. When preliminary experiments showed that infection, not "direct" had taken place, further experiments were arranged to determine if fleas, once infective, retain infection so as to be capable of infecting a series of healthy clean rats without themselves being again exposed to infection, and at the same time to determine by direct observation and within narrow limits (1) the length of the incubation period in the flea, and (2) the length of the multiplication period in the rat. The following conclusions are drawn from the results of the experiments; The rat-flea transmits *Trypanosoma lewisi* from infected to non-infected rats. Transmission takes place by the "cyclical" method. Transmission by the "direct" method did not take place. The incubation period in the flea has a minimum length of about six days, but may be longer. The length of the multiplication period in the rat is about twelve days. In the developmental cycle the establishment of the trypanosome in the flea begins with the multiplication of Crithidia-like forms in the rectum. No flagellates have been found by the authors in any fleas which had not fed on infected rats.

Decrease in the Death-Rate from Tuberculosis.—At the meeting of the Conference of State Charities Aid Associations at Albany in March, at which the watchword was "No uncared-for tuberculosis in 1915," Dr. Simon Flexner of the Rockefeller Institute had this to say (*Journal of the Outdoor Life*, April, 1910): "Since it has been possible in a period of a little more than ten years to reduce the death rate from tuberculosis in New York City by more than 40 per cent., and this in spite of its congested tenements, its foreign and ever-shifting population, and its lack of suburban outlets, it requires no gift of prophesy to foretell that once the state of New York is aroused to its responsibility and opportunity in this field of human endeavor, its record will surpass that of New York City and become the equal of the best to be found in the world. Merely to reduce the death rate in the state, outside of New York City, by 50 per cent. for which the method lies clearly exposed, would mean the saving of 3,000 valuable lives annually, and the sparing of an immeasurable amount of suffering, a vast deal of poverty and much treasure. And I hope and expect to see this result surpassed in the next decade. . . . It is significant that the falling in the death rate from tuberculosis is found to be going on precisely in those countries and exactly in proportion to the extent in which hospital and sanatorium care of the tuberculous has been provided, while in countries in which this provision has been neglected, the death rate has remained high."

Marriages

EDWIN W. ENZ, M.D., to Miss Anita Perry, both of Cincinnati, Ohio, June 29.

JAMES CLINTON RUSSELL, M.D., to Mrs. Ella Thomas, both of Oakford, Ill., July 4.

ALVARO C. DURKEE, M.D., to Miss Lydia Helen Maloney, both of Pontiac, Ill., July 20.

PAUL H. RUPP, M.D., to Miss Grace C. Rooney, both of Milwaukee, Wis., July 7.

HARRIS P. DAWSON, M.D., Mobile, Ala., to Miss Jennie T. Barrow, at New Orleans, June 2.

WADE MACMILLAN, M.D., Cincinnati, to Miss Marion Thayer Ashton, of Oxford, Ohio, July 15.

RANDOLPH W. HILL, M.D., Los Angeles, Cal., to Miss Edith Thatcher, of San Francisco, June 28.

CARL S. MONTGOMERY, M.D., Stockland, Ill., to Miss Leona B. Garrett, of Momence, Ill., June 30.

DAVID ALDERMAN HERRON, M.D., Platte, S. Dak., to Miss Jessie Edna Lee, of Pesotum, Ill., July 12.

CHARLES LOFTUS GRANT ANDERSON, M.D., Washington, D. C., to Miss Ruby Scruggs, of Atlanta, Ga., July 7.

JAMES MCBRYDE KNOX, M.D., to Miss Charlotte Rebecca Poyneer, both of Cedar Rapids, Iowa, June 29.

DANIEL ALOYSIUS MCATEER, M.D., Brooklyn, N. Y., to Miss Alice Theresa Bee, of Bridgeport, Conn., June 22.

ALTON LEROY FLANDERS, M.D., Boston, to Miss Katherine McKane, of Asheville, N. C., at Rockland, Maine, July 14.

Deaths

Alexander Johnson Stone, M.D. Berkshire Medical College, Pittsfield, Mass., 1867; second vice-president of the American Medical Association in 1902; former president of the Minnesota State Medical Association; a member and former president of the Association of Military Surgeons of the United States; ex-president of the American Association of Medical Editors; Surgeon-General of Minnesota, which position he held for ten years; health commissioner of St. Paul from 1895 to 1899; professor and chief of the department of gynecology in the University of Minnesota College of Medicine and Surgery; died at his home in St. Paul, July 16, from bronchitis and hepatitis, aged 64.

Paul **Allen Adams, M.D.** College of Physicians and Surgeons, New York City, 1903; a member of the American Medical Association; who was appointed first lieutenant, Medical Reserve Corps, U. S. Army, Sept. 25, 1909; died at Schofield Barracks, Honolulu, H. I., July 3, from acute appendicitis, aged 34.

Henry **Clay Early, M.D.** Barnes Medical College, St. Louis, Mo., 1898; a member of the Illinois State Medical Society; died at his office in Granite City, Ill., July 13, from the effects of a gunshot wound of the heart, fired it is believed, with suicidal intent, aged 44.

William **Orlando Shepard, M.D.** Atlanta (Ga.) College of Physicians and Surgeons, 1900; a member of the Medical Association of the State of Alabama; died at his home in Tohepeka, near Dadeville, Ala., June 27, from ulceration of the bowel, aged 37.

Edwin **Hawes, M.D.** Louisville (Ky.) Medical College, 1873; for many years connected with charitable work in Louisville, being agent for the Western District Charity Organization since 1885; died at his home in that city, July 12, from cystitis, aged 59.

John **Nelson Byers, M.D.** Medical Department of Victoria College, Toronto, Ont., 1869; a member of the Nebraska State Medical Association; of Fontalle, Neb.; died at the Clarkson Hospital in Omaha, July 6, from carcinoma of the stomach, aged 67.

Edward **G. W. Crist, M.D.** Medico-Chirurgical College of Philadelphia, 1907; a member of the American Medical Association; of Lisburn, Pa.; died at the home of his father-in-law in Pleasantville, N. J., July 2, from tuberculosis, aged 33.

Martin Jellette Taylor, M.D. University of Michigan, Department of Medicine and Surgery, 1881; a member of the Minnesota State Medical Association; died at his home in Janesville, Minn., July 5, from cerebral hemorrhage, aged 56.

Thomas Henry Howard, M.D. Jefferson Medical College, Philadelphia, 1861; a member of the Medical Society of Virginia; a surgeon in the Confederate Army during the Civil War; died at Floyd, Va., July 16, from uremia, aged 75.

John L. Higbee, M.D. Homeopathic Medical College of Missouri, St. Louis, 1870; said to have been the oldest physician in southern Indiana; died at his home in Sullivan, Ind., July 9, from senile debility, aged 93.

Claudius William Powell, M.D. University of Alabama, Medical Department, Mobile, 1888; a member of the Medical Association of the State of Alabama; died at his home near Hope Hull, Ala., July 12.

George Seabury DeWitt, M.D. Harvard Medical School, Boston, 1846; assistant surgeon in the Union Army during the Civil War; died at his home near Elliott, Iowa, July 6, from senile debility, aged 92.

Luther B. Terrill, M.D. Medical College of Ohio, Cincinnati, 1880; a member of the American Medical Association; surgeon to the Big Four Railway; died at Indianapolis, July 7, from pneumonia, aged 54.

Emery C. Thorn, M.D. Hospital College of Medicine, Louisville, Ky., 1901; a member of the American Medical Association; died at his home in Hagerman, N. M., July 11, from tuberculosis, aged 33.

George Frederick Kaufhold, M.D. Minneapolis College of Physicians and Surgeons, 1909; died at Duluth, Minn., as the result of injuries received in an automobile accident, July 17, aged 25.

Robert S. Powell, M.D. University of Virginia, Department of Medicine and Surgery, 1857; a member of the Medical Society of Virginia; died at his home in Woodview, Va., July 11, aged 75.

Rudolph Woldemar Baum, M.D. University of Freiberg, Germany, 1883; a member of the Medical Society of the State of California; died at San Francisco, June 10, aged 53.

Michael Frank McCabe, M.D. Rush Medical College, Chicago, 1885; city physician and health officer of Ironwood, Mich., died at his home in that place, June 8, aged 50.

Nathan Henry Richards, M.D. University Medical College of Kansas City, Mo., 1901; of Kansas City, Kan.; died at Alamosa, Colo., June 6, from tuberculosis, aged 56.

Charles Edward Moore, M.D. Rush Medical College, Chicago, 1895; formerly of Rolling Prairie, Ind.; died at Kokomo, Ind., June 27, from hematemesis, aged 39.

Henry Ernest Packer, M.D. New York Homeopathic Medical College and Hospital, New York City, 1881; of Greenfield, Mass.; died in Boston, July 15, aged 62.

Oscar F. Edwards, M.D. Eclectic Medical Institute, Cincinnati, 1864; died at his home in New Lebanon, Ohio, July 8, from dropsy and heart disease, aged 74.

Ernest Clayton Blake, M.D. Dartmouth Medical School, Hanover, N. H., 1893; died suddenly at his home in Boothbay Harbor, Maine, July 8, aged 41.

Eli Forest Denson, M.D. Vanderbilt University, Medical Department, Nashville, Tenn., 1879; died at his home in Pelham, Ala., July 9, aged 55.

William Dunham Cole, M.D. Eclectic Medical Institute, Cincinnati, 1879; died at his home in Ansonia, Ohio, July 8, from paralysis, aged 63.

Charles H. Dyer, M.D. Eclectic Medical Institute, Cincinnati, 1896; died at Winchester, Ill., July 13, from heart disease, aged 37.

Frank Lyon Wood, M.D. Harvard Medical School, Boston, 1900; died at his home in Long Beach, Cal., June 29, aged 35.

Pharmacology

ENTERONOL—CHOLEROL

A Nostrum That Has Been Going to Physicians Under One Name and That Now Goes to the Public Under Another

Our readers no doubt remember the therapeutic humbug, yclept Enteronol, emanating from Oswego, N. Y.; it has been pretty thoroughly exposed in two articles in THE JOURNAL.[1] It was first shown to be advertised under a fake formula with the claim that its marvellous virtues as "the greatest enteric antispetic and germicide ever known to medical science" were due to a mysterious Himalayan plant. Analysis showed its chief constituent to be common alum while investigation indicated that the mysterious plant was a figment of the imagination. Later the enterprising manufacturers added opium.

In the second article THE JOURNAL showed that advertising contracts for this nostrum were being offered to medical journals on condition that payment should be either in the "preferred stock" of the Enteronol Company or in Enteronol itself! A number of medical journals, apparently, were willing to accept the advertisements on this basis.

Now comes the third and final stage—its exploitation to the laity. Not as Enteronol, however, for that would doubtless interfere with the sale of the stuff to physicians, but under the more expressive name "Cholerol," it goes to the public. As Enteronol the nostrum is still being advertised to physicians, both through medical journals and by means of circular

1. March 21, 1908, and Nov. 20, 1909; reprinted in The Propaganda for Reform.

letters, and medical men are being importuned to buy stock in the company. Naturally the testimonials which the concern has on hand regarding Enteronol are too valuable an asset to waste, so they are made to do duty—after being slightly "worked over" to suit the lay audience—for the "great diarrhea specific," Cholerol.

Cholerol sells at 25 cents a box and the statement is made on the package:

CURES DIARRHEA, DYSENTERY, CHOLERA, ETC.

This brings the nostrum clearly in conflict with the federal food and drugs act and we trust we may find the enterprising exploiters of alum, opium and physicians given due prominence in the "notices of judgment" which an overworked government department has to issue for the warning of the public against frauds in drugs and foods.

The above are two names for a mixture of alum and opium exploited respectively to the medical profession and to the laity. As "Enteronol" it is "advertised to the profession only" as the "greatest enteric antiseptic and germicide ever known to medical science:" as "Cholerol the great diarrhea specific" it goes to the public.

If the stuff had not been exposed for the fraud that it is, there might be some slight excuse for careless medical journals carrying advertisements of Enteronol. But when it is borne in mind that on two separate occasions THE JOURNAL has shown the preparation itself to be a therapeutic humbug and its method of exploitation to be an impudent insult on the medical profession, when it is remembered, too, that these exposés have been reprinted and widely distributed in the "Propaganda for Reform" booklet—when all this is called to mind there is absolutely no excuse for any medical journal carrying an advertisement of the nostrum. Yet it is still to be found exploited in the pages of the following publications:

Proctologist.

Medical Herald. } Owned by the same individual.
Medical Fortnightly. }

Medical Summary.

Milwaukee Medical Journal.

Atlanta Journal-Record of Medicine.

Toledo Medical and Surgical Reporter.

Whether these journals are being paid for their space in "preferred stock," in Enteronol tablets or in real money, makes little difference. The stuff has been shown to be a fraud and those medical journals which are helping to perpetuate the fraud are recreant to any trust their readers may have in them and are a disgrace to medical journalism.

ANTIDIABETICUM

A correspondent asks for information regarding "Bauer's Antidiabeticum," a preparation exploited by the Sanin-Gesellschaft of Koetzschenbroda-Dresden. He states that the "literature" sent out concerning this preparation is extremely quackish and he wonders if the product is not in the same class.

Advertising matter on Bauer's Antidiabeticum is a good illustration of the "literature" of "patent medicines" in general. Making allowance for somewhat imperfect English, we gather from it that previous attempts to cure diabetes have failed but that the author has made a great discovery by which, the cause of the disease being known, he is able to present a scientific treatment. The cause of diabetes in his view is simply an "indigestion of the severest kind, a weakening and a refusal to act on the part of the nerves regulating the so-called 'flexus sympathicus' which causes auto-poisons to pass into the blood, thus causing gradual dissociation of the blood and, therefore, deficient functions of all the tissues of the body." His explanation of previous failures is as follows: "All the different cures for diabetes failed until now, only because of their inability to fight and to render innocuous the diabetic acids, poisons and parasites; especially aceton, acetic and oxybutyric acid." The true cure is, of course, Bauer's Antidiabeticum. After describing the symptoms, the author proceeds as follows: "Bauer's Antidiabeticum in conjunction with the new diabetes therapy does gradually away with all these symptoms. Open wounds are rapidly cured through a strict diet along with the use of Bauer's Antidiabeticum; slowly, however, when the albumins of the body are already decomposing into sugar, when the blood is progressing favourably the tissues of all sorts which were destroyed by the poisons regenerate gradually."

There is no limit to his enthusiasm regarding his great discovery. "I wish hereby to call again particular attention to the absolutely certain cure of wounds after using 'Bauer's Antidiabeticum,' especially after amputation, as I have proved on various cases." He cautions us, however, that "every case is curable in which the diabetic poisons have not gone beyond a certain limit."

The "literature," so far as we can learn, gives no information as to the composition of this wonderful remedy. There appears to be some difference in the composition of the product as made in the United States and Germany. The following is the method of preparing, according to the U. S. patent specifications:

5000 gm. Eugenia jambolana and 5000 gm. dried kola nuts are mixed and ground as fine as possible. Then 125 gm. lime and 2500 gm. water are added and the mixture triturated at a gentle heat and then allowed to stand for 24 hours. Carbon dioxid is run in till the alkalinity of the mixture is about 0.2 per cent. Then water is added at 50° C. and the mixture filtered through animal charcoal. The resulting liquid has a specific gravity of 1.02.

According to Hahn-Holfert-Arends (Spezialitäten und Geheimmittel, edition 6, 1906, p. 24), however, the composition is said to be:

Ext. Condurango	15 gm.
Jambolana fruit	15 gm.
Jambolana bark	15 gm.
Ext. Arthante	10 gm.
Flaxseed	60 gm.
Bay leaves	2 gm.
Ext. Gentian	15 gm.
Rosemary flower	5 gm.
Ext. Calami	15 gm.
Star anise	3 gm.
Sodium chlorid	30 gm.
Ext. Cinchona, alcoholic	15 gm.
Salicylic acid	3 gm.

It is needless to say that no physician who understands the pathology of diabetes would expect to cure the disease by means of such an absurd combination.

Correspondence

Pharmaceutical Manufacturers and the Great American Fraud

To the Editor: An editorial entitled "Pharmaceutical Manufacturers and the Great American Fraud" in your issue of July 2, calls attention to one hitherto little appreciated link in the great American fraud chain. It has previously been hinted at that the "ethical" pharmaceutical manufacturing houses are in the business of supplying all comers, whether the goods be fraudulently exploited or not. To quote from your editorial: "Legally they may be within their rights, but ethically and morally their course is iniquitous. No amount of argumentative sophistry will justify, in the eyes of the medical profession, the attitude taken by those manufacturing pharmacists who are willing to sell their products to any who will pay for them, no matter to what use the drugs are put." And again: "How much longer manufactur-

ers of pharmaceuticals will maintain this Janus-faced attitude depends largely on the medical profession. It is safe to assert that no firm would for long continue this wretched business in the face of insistent disapproval from physicians."

Responsibility for the continuance of this lamentable state of affairs must rest somewhere—perhaps not entirely on the manufacturers and exploiters. But why, I would ask, place the burden of disapproval of the practice on the shoulders of the physicians? Why not seek a scapegoat nearer home? THE JOURNAL, through the activity of its Council on Pharmacy and Chemistry, is trumpeting loudly its emancipation from the thraldom of the nostrum maker. And it is well that it is so. But is there "argumentative sophistry" shrewd enough to explain THE JOURNAL'S attitude of disapproval of a misbranded article advertised to the medical profession, while sanctioning a far greater offense—the active cooperation of the "ethical" manufacturer with the vilest of advertising schemers? The manufacturer who makes it possible for these criminals to rob and destroy, who furthers "the business by which the ignorant or gullible sick are humbugged and defrauded." who prepares for them such ammunition as "consumption-cure" pills, "force of life" and "make-man tablets"—ill deserves our respect and support.

If THE JOURNAL of the American Medical Association represents the united medical profession, why should not it (THE JOURNAL) don the cloak of disapproval for the united profession? If the flourishing JOURNAL, with its circulation of over 53,000, is unwilling to live up to its professed convictions and say to such a manufacturer, "You have violated the confidence the medical profession has placed in you and are therefore *persona non grata* with this publication and cannot re-enter its pages until you have purged yourself of this practice," what influence can the disapproval of a handful—a hundred—or several times that number of physicians bring to bear? The "insistent disapproval of physicians" will give these manufacturers much food for the waste basket; the same disapproval expressed by THE JOURNAL in the manner suggested, will give them wholesome food for reflection.

Let it not be said that THE JOURNAL of the American Medical Association is Janus-faced; that if no amount of argumentative sophistry justifies the manufacturers' practice in the eyes of the medical profession, this practice shall remain uncondemned by that profession's official publication. Let it not be said that THE JOURNAL has failed to serve those in whose interest it professes to labor, and—splendid publication that it is—that its ethics are ethereal and its preachings mere oratorical flights.

ARTHUR J. PATEK, M.D., Milwaukee, Wis.

COMMENT.—The arguments advanced by our correspondent—the late editor of the *Wisconsin Medical Journal*—are plausible but fallacious. The reason THE JOURNAL would place "the burden of disapproval of the practice," as he put it, on the "shoulders of physicians" is because that is where the burden belongs. The medical profession, either directly or indirectly, has been responsible in no small degree for some of the evils in the pharmaceutical manufacturing business, and the majority of physicians are beginning to realize this fact. It is for this reason the critical work of THE JOURNAL has been carried on in the spirit in which it has. While the nostrum exploiters, and those medical journals that stand for the nostrum interests, would have the profession believe that the propaganda for reform in proprietary medicines has been exclusively of a *destructive* nature, the better class of pharmaceutical manufacturers, and the higher class of medical journals, know that the chief—and by far the most important—work of the Association has been of a *constructive* nature.

It is probable that, with but possibly one or two honorable exceptions, every large pharmaceutical house in the United States has been making a practice of furnishing medicaments for quacks and fake medicine concerns. On the other hand many of these manufacturers have done a vast amount of original research work that has enriched the physician's armamentarium—and thereby done the public good service. True, the work was done for selfish purposes; but the whole history of human progress shows that practically everything we now pronounce necessary to our comfort and material happiness has been brought into being for selfish reasons—that of bringing the inventor or discoverer riches or honor.

To particularize, it may be stated without fear of contradiction that if the individual physician makes it clear to the various pharmaceutical houses, either through the detail men that call on him or by letter, that he resents the double-faced attitude shown up by THE JOURNAL, one of two things will happen. If furthering the great American fraud is more profitable than serving the profession, then such houses will frankly go into that business; if on the other hand there is more profit—as there is certainly more honor—in catering to the medical profession, then the manufacture of preparations for those who use them to deliberately swindle the public, will cease. That THE JOURNAL would hasten the necessary reform by excluding from its pages advertisements of products that are of value to the medical profession, no one who gives the matter more than the most shallow consideration, will for a moment believe. THE JOURNAL believes that it can best serve the interest of physicians by causing reforms from within rather than by ostracizing pharmaceutical houses which—with all their shortcomings—have done, and are doing, valuable work for the medical profession.

It is not, as our correspondent seems to intimate, a matter of losing advertising patronage that causes THE JOURNAL to retain the advertisements of those houses which it has shown to be guilty of furnishing drugs to those who would swindle and defraud the public. Those familiar with THE JOURNAL'S attitude on the question of acceptable advertising, know how absurd it is to accuse it—even inferentially—of shaping its policy according to its advertising pages.

When THE JOURNAL believes that the best interests of the medical profession and the public can be served by ceasing to carry advertisements of reputable products, put out by firms who manufacture "patent medicines," then such advertisements will be dropped. Meanwhile we shall continue to let our readers know of all cases of which we learn, similar to those referred to, i. e., where pharmaceutical houses are in collusion with those who are deliberately swindling the public.

The Standing of Queen's Medical College, Kingston, Ont.

To the Editor: In THE JOURNAL, July 2, there is a note on page 38, under Canadian news, on "The Carnegie Foundation Report and Canadian Medical Colleges," which contains such a serious misstatement that I am forced to protest against it and to ask you to give this equal publicity. The item reads: "According to this report four of the eight medical colleges would meet the needs of medical education in Canada. These are Toronto, McGill, Manitoba and Laval at Quebec." Now the Carnegie report (page 326) reads thus: "At this moment the needs of the Dominion could be met by the four better English schools and the Laval department at Quebec."

The Kingston school is one of the "four better English schools." It ranks next to McGill in point of size and efficiency, and it is placed in "Class A" by the Council on Medical Education of the American Medical Association (THE JOURNAL, June 18, p. 2062).

I presume that your correspondent did not read the report for himself, for I am unwilling to think that he would deliberately try to injure Queen's Medical School in this way.

As graduates of Queen's are to be found all over the United States, and as many of them are members of the Association and readers of THE JOURNAL, I beg to add that the position and the future of Queen's Medical School are perfectly secure. Its record, organization, progress, equipment and facilities compare well with those of any other Canadian school and the faculty invites the most rigid inspection and criticism.

J. C. CONNELL,

Dean, Queen's Medical Faculty, Kingston, Ont.

[COMMENT: The passage alluded to clearly contains a misquotation of the Carnegie Foundation's report and we are glad to publish the above letter to correct it.—ED.]

Types of Bronchoscopic Tubes

To the Editor: The ingenious and skillful operation reported by Dr. W. E. Casselberry, "The Cutting in Two of a Large Steel Pin while Fixed in the Left Bronchus" (THE JOURNAL, July 2, p. 9), offers opportunity for comment on the relative merits of the Killian and Ingals or Jackson types of bronchoscopic tubes. The beveled "tubular spatula" of Killian is peculiarly adapted to exploration of the bronchi through the lower route and especially in searching for a pin.

In a recent operation in a case similar to Dr. Casselberry's—a steel glass-headed pin 1⅜ inches long in the left bronchus of an infant of 18 months—I was able to enter and bring into the field of vision the whole of the main bronchus without risk of touching the pin. The long beveled end turned to the left enables the operator to pass and straighten out the angle and examine that area where the point is apt to be embedded, that is, the median bronchial wall. The beveled end further aids in extraction, as it is necessary only to press the forceps grasping the pin near the point over against the projecting lip, thus avoiding the risk incurred in attempting to draw the pin into the lumen of the tube. The Killian tubes are not in general use in this country and it seems to me that the long beveled end is a very considerable advantage in the type of operation performed by Dr. Casselberry.

THOMAS HUBBARD, Toledo, Ohio.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TSUCHIYA'S METHOD OF ESTIMATING ALBUMIN IN URINE

To the Editor:—In a recent editorial (THE JOURNAL, July 16, p. 221) you referred to Tsuchiya's method of estimating the amount of albumin in the urine. Will you kindly tell me where I can find the details of the method? CHESTER CONYERS, Chicago.

ANSWER.—Tsuchiya published his method in the *Zentralblatt f. inn. Med.*, June 13, 1908, p. 605, and a brief abstract is given in THE JOURNAL, July 25, 1908, p. 333. The formula is given by E. H. Goodman and S. Stern in THE JOURNAL, Dec. 12, 1908, p. 2056, as follows.

Phosphotungstic acid	1.5	gm.
Hydrochloric acid (conc.)	5	c.c.
Alcohol, 95 per cent. q. s. ad	100	c.c.

Tsuchiya precipitates the albumin in a specially devised tube. Goodman and Stern titrate 5 c.c. of the reagent with urine until a whitish cloud appears after shaking.

UPHOLDING THE VITAL STATISTICS LAWS

To the Editor:—In THE JOURNAL (July 9, p. 133), under the above caption, you say: "It is an axiom in the legal profession that every lawyer is an officer of the state." What work does the lawyer perform in your state [United States] without remuneration? Why should the medical man be expected to serve the state gratuitously? What special privileges are granted the physician in your state [United States] as implied in your editorial?

J. G. MUNROE, M.D., Winnipeg, Canada.

ANSWER.—By his oath when admitted to practice law in the United States the lawyer becomes an officer of the court. He has certain duties and obligations; there are certain things he agrees to do and to refrain from doing, for the privilege granted him of making a livelihood by his practice before the courts. He may be assigned by the judge of any court to defend an indigent prisoner without compensation, and he may not refuse on penalty of contempt or perhaps of disbarment. The right to practice medicine in any state is wholly a special privilege, properly within the regulation of the state. The state makes certain laws requiring the reporting of diseases, births and deaths. The physician is no more exempt than any other citizen from complying with all the laws, and these special laws referring to him he virtually contracts to comply with when he receives his license from the state granting him the special privilege of practicing medicine. In return, the state protects him in this special privilege by preventing others from practicing medicine, just as the government protects all citizens in their personal and property rights in return for rates or taxes paid. The labor of making these reports is trifling, the state furnishing blanks and often even postage; and besides, the physician may be fairly said to be paid for the service in the fees he collects from his patients, as the service, in the case of births, at least, is as valuable to the individual as to the people collectively. The physician is thus in a position toward the state analogous to that of the lawyer toward the court.

USE OF EPINEPHRIN IN ASTHMA

To the Editor:—Will you inform me where I can get treatises or information concerning J. Segel's paper on the oxygen-epinephrin inhalation treatment of asthma as abstracted in THE JOURNAL, July 9, 1910, page 178. C. P. DOLAN, Worthington, Minn.

ANSWER.—The article of J. Segel appeared in the *Zentralblatt f. inn. Med.*, June 4, 1910. THE JOURNAL abstract gives practically all the technic described in the original article. Segel uses a special attachment for volatilizing medicaments in conjunction with the inhalation of oxygen. This he does not describe in his article. For asthma he causes the patient to inhale 1 c.c. of a 1 per cent. epinephrin (adrenalin) solution. The article is extremely optimistic, considering that he reports only two cases. The method is a modification of the hypodermic use of epinephrin for asthma, recently introduced into Germany by N. v. Jagic (*Berl. klin. Wchnschr.*, March 29, 1909, page 583), but which has been long practiced in America. Jagic refers to Kaplan (*Med. News*, 1905). C. Matthews (*Brit. Med. Jour.*, Feb. 19, 1910) has also applied an inhalation method by spraying the solution into the nose. This method was recommended by T. F. Reilly in THE JOURNAL, June 4, 1904, page 1475.

REFERENCES ON HAY-FEVER

To the Editor:—Please give me references to some of the latest literature on hay-fever. W. C. HOLLOPETER, Philadelphia.

ANSWER.—

Kobrak, F.: Ueber den gegenwärtigen Stand der Heuschnupfenfrage, *Internat. Centralbl. f. Ohrenh.*, 1907, v, 167.

Wolff-Eisner, A.: Erfahrungen über das Heufieber aus dem Jahre 1906, *Deutsch. med. Wchnschr.*, 1907, xxxiii, 260.

Avellis, G.: Ueber Heuschnupfenbehandlung nach eigenen Erfahrungen, *München. med. Wchnschr.*, 1907, liv, 518.

Billard, G.: Essais de sérothérapie contre le rhume des foins et contre l'asthme, *Jour. de physiol. et de path. gén.*, 1907, ix, 304.

Weichardt, W.: Ueber spezifisches Heufieberserum, *Sitzungsb. d. Phys.-Med. Soc. zu Erlangen*, 1906, xxxvii, 209.

Baerwald, R.: Alpine Heufieberstationen, *Deutsch. med. Wchnschr.*, 1907, xxxiii, 681.

Heymann, P.: Zur Lehre vom Heufieber, *Berl. klin. Wchnschr.*, 1907, xliv, 374.

FitzGerald, W. H.: Treatment of Hay-Fever, THE JOURNAL, 1907, xlviii, 1944.

Schadle, J. E.: The Antrum of Highmore as an Etiologic Factor in the Production of Hay-Fever, *Med. Rec.*, New York, 1907, lxii, 841.

Weichart, W.: Zur Heufieberfrage, *Berl. klin. Wchnschr.*, 1907, xliv, 678.

Boesser: Behandlung des Heuasthmas mit Atropin-Chinin Injektionen, *Deutsch. med. Wchnschr.*, 1907, xxxiii, 1007.

Pereira, J. A. W.: Note on the Symptoms and Treatment of Hay-Fever, *Lancet*, London, 1907, ii, 87.

Vigier, P.: L'oeil et la fièvre des foins, *Rec. d'opht.*, Paris, 1907, Series 3, xxix, 360.

Lloyd, W.: Hay-Fever, Hay-Asthma: Its Causes, Diagnosis and Treatment, H. J. Glaisher, London, 1907.

Hall, G. C.: Pollantin in Hay-Fever, THE JOURNAL, 1907, xlix, 705.

McKee, E. S.: Hay-Fever, *Lancet-Clinic*, 1907, New Series, xcviii, 138.

Reuter, J. A.: The Use of Diphtheritic Antitoxin in the Treatment of Hay-Fever and Asthma, *Med. Sentinel*, 1907, xv, 412.

Dickenson, J.: The Bier Treatment; Report of Cases, *Cleveland Med. Jour.*, 1907, vi, 460.

Kühne: Erfahrungen in der Anwendung des Elektrotherms, *Monatschr. f. Unfallheilk.*, 1907, xiv, 319.

Variot: Le diagnostic de l'adénopathie trachéobronchique, *Rev. gén. de clin. et de thérap.*, 1907, xxi, 727.

Curtis, H. H.: The Etiology and Recent Treatment of Hay-Fever, THE JOURNAL, 1907, xlix, 144.

Dunbar, W. P.: Hay-Fever, Osler's Modern Medicine, 1907, iii, 605.

Albrecht: Immunisierung gegen Heufieber durch Antitoxin und die beim Gebrauche des letzteren beobachteten Fälle von Anaphylaxie, *Med. Klin.*, 1908, iv, 665.

Bresgen, M.: Das Heufieber und seine Heilung durch Herstellung gesunder Nasenluftwege, *Therap. Rundschau*, 1908, ii, 317.

Yonge, E. S.: The Treatment of Intractable Hay-Fever and Paroxysmal Coryza by Resection of the Nasal Nerve, *Lancet*, London, 1908, i, 1688.

Grace, R.: The Treatment of Hay-Fever, *Therap. Gaz.*, 1908, Series 3, xxiv, 537.

Todd, F. C., "Pollinosis" or Hay-Fever, *Jour. Minnesota Med. Assn.*, 1908, xxviii, 323.

Carini, A. Existe a febre do fêno no Brazil? *Tribuna Med.*, 1908, xiv, 105.

Sajous, C. E.: The Therapeutics of Diseases which Involve the Internal Secretions: Hyperæsthetic rhinitis: Its Pathogenesis and Treatment, *Month. Cycl. and Med. Bull.*, 1908, i, 407.

Bourgeoise, H.: Un traitement chirurgical de l'asthme des foins et les coryzas spasmodiques, *Progrès méd.*, 1908, Series 3, xxiv, 457.

Friedländer, A. A.: Zur Therapie des Heufiebers, *München. med. Wchnschr.*, 1908, xlv, 1932.

Stein, O. J.: Some Observations on Hyperesthetic Rhinitis (Hay-Fever), with Suggestions for Its Rational Treatment, *Laryngoscope*, 1908, xviii, 692.

Alton, C. D.: Climate and Hay-Fever, *Tr. Am. Climat. Assn.*, 1908, xxiv, 20.

Liebermann, H.: Ueber Helgoland und Heufieber, *München. med. Wchnschr.*, 1909, lv, 1280.

Bachem, C.: Das Heufieber und seine Behandlung, *Therap. Rundschau*, 1909, iii, 481.

Rabé: Traitement du rhume des foins, *Bull. de Laryngol., Otol. et rhinol.*, 1909, xii, 222.

Townsend, I.: Some Observations on Hay-Fever, *Homeopath. Eye, Ear and Throat Jour.*, 1909, xv, 468.

Hobbs, W. R.: Hay-Fever, *West. Med. Rev.*, 1909, xiv, 452.

Latchford, O. L.: Rose-cold and Hay-Fever or Coryza Vasomotoria Periodica; its Prophylaxis and Treatment, *Therap. Gaz.*, 1909, v, 172.

Kyle, B. D.: Chemistry of Saliva in Relation to Hay-Fever, THE JOURNAL, Aug. 3, 1907, p. 402.

Hürlimann: Superheated Air in Local Treatment of Hay-Fever, *Cor.-Bl. f. schweiz. Aerzte*, Aug. 1, 1907.

DeWitt, J. F.: Hay-Fever, *Ohio State Med. Jour.*, October, 1908.

Gosney, C. W.: Treatment of Hay-Fever, *Kansas City Med. Index-Lancet*, August, 1909.

Blos, E.: Operative Treatment of Hay-Fever, *Deutsch. med. Wchnschr.*, Aug. 26, 1909; abstr. in THE JOURNAL, Oct. 2, 1909, p. 1141.

Tinder, J. W.: Hay-Fever, *New Mexico Med. Jour.*, February, 1910.

Scheppegrell, W.: Immunizing Treatment of Hay-Fever, *Gulf State Jour. Med. and Surg. and Jour. South. Med. Assn.*, April, 1910.

The Public Service

U. S. Public Health and Marine-Hospital Service

Changes for the week ended July 20, 1910:

Gardner, C. H., surgeon, granted 1 month's leave of absence from Aug. 1, 1910.

Wickes, H. W., P. A. surgeon, granted 1 month's leave of absence from July 15, 1910.

Foster, M. H., P. A. surgeon, on return of Surgeon H. D. Geddings to Naples, Italy, relieved from duty at that station and directed to proceed to Ellis Island, N. Y., and report to the Chief Medical Officer for duty.

Korn, W. A., P. A. surgeon, directed to proceed to Perth Amboy, N. J., on special temporary duty.

Manning, Herbert M., P. A. surgeon, granted 1 month's leave of absence from Aug. 2, 1910.

Friedman, H. M., acting asst.-surgeon, granted 28 days' leave of absence from Aug. 1, 1910.

Gibson, L. P., acting asst.-surgeon, granted 7 days' leave of absence from July 18, 1910.

Hamilton, H. J., acting asst.-surgeon, granted 4 days' leave of absence from July 19, 1910.

Houghton, M. W., acting asst.-surgeon, granted 7 days' leave of absence from July 23, 1910.

Onuf, B., acting asst.-surgeon, granted 2 days' extension of leave from July 6, 1910, on account of sickness.

Porter, J. Y., Jr., acting asst.-surgeon, granted 1 month's leave of absence from July 15, 1910, with pay, and from Aug. 15, 1910, to Nov. 30, 1910, without pay.

Scott, J. T., acting asst.-surgeon, granted 30 days' extension of leave from May 4, 1910, on account of sickness.

Staton, L. W., acting asst.-surgeon, granted 14 days' leave of absence from July 16, 1910.

Stuart, A. F., acting asst.-surgeon, leave of absence for 30 days from July 5, 1910, revoked.

Wetmore, W. O., acting asst.-surgeon, granted 9 days' extension of leave from June 29, 1910, on account of sickness.

Dr. Richard A. Kearny commissioned (recess) an Assistant Surgeon in the Public Health and Marine-Hospital Service.

Dr. Warren F. Draper commissioned (recess) an Assistant Surgeon in the Public Health and Marine-Hospital Service.

Dr. Julian M. Gillespie commissioned (recess) an Assistant Surgeon in the Public Health and Marine-Hospital Service.

Surgeon M. J. Rosenau's resignation accepted by the President to take effect June 30, 1910.

Medical Corps, U. S. Navy

Changes for the week ended July 16, 1910:

Berryhill, T. A., medical inspector, commissioned medical inspector from March 5, 1910.

Commissioned Surgeons: Seaman, W., surgeon, from Dec. 13, 1909; Richardson, R. R., surgeon, from Jan. 30, 1910; Dunn, H. A., surgeon, from Feb. 19, 1910; Stuart, A., surgeon, from March 5, 1910; Stepp, J., surgeon, from March 24, 1910.

Short, W. H., P. A. surgeon, commissioned passed assistant surgeon from May 4, 1910.

Philips, E. W., asst.-surgeon, detached from the *Marietta* and ordered to continue treatment at the Naval Hospital, Portsmouth, N. H.

Irvine, W. L., asst.-surgeon, detached from the Naval Training Station, Newport, R. I., and ordered to the *Marietta*.

Strine, F. S., P. A. surgeon, detached from the Naval Hospital, Olongapo, P. I., and en route home.

Brown, H. S., P. A. surgeon, detached from the Naval Hospital, Canacao, P. I., and ordered to duty at the Naval Hospital, Olongapo, P. I.

Changes during the week ended July 23, 1910:

Reed, E. U., P. A. surgeon, detached from duty from Naval Hospital, Norfolk, Va., and ordered to duty on the U. S. S. *Philadelphia*.

Diehl, O., medical inspector, detached as fleet surgeon U. S. S. *Charleston*, Asiatic Fleet, and ordered home.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

EDITORIAL QUOTATIONS

"The Organization of Ill Health"

We quote the following from the (N. Y.) *Independent* as indicating the position of high grade, truly independent periodicals:

There are a number of commercial interests in this country that do not want an independent national department of health. In recent years we have had many exposures of the "patent medicine" swindle. We have learned that most of the most popular "patent medicines," the so-called tonics, were nothing more than dilute alcohol with certain bitter drugs so as to make them taste medicinal. Physicians have seen alcohol habits formed as a consequence of freely imbibing these alcoholic preparations. Some of them were meant particularly for women's diseases, and the consequence has been a feminine nipping at alcoholic products that has worked serious harm to the women of the country. We have also found that the headache powders so commonly advertised were composed of drugs which, when taken as freely as was advised on the labels of many of these preparations, were seriously dangerous. We have had not a few, but many, deaths as a consequence of them. The soothing syrups for children mostly contained opium and were seriously injuring the growing child at an important period of its development, and adding to the number of nervous wrecks with tendencies to drug addictions in after life that we had in this country.

For a time after these exposures the "patent medicine" swindlers were very quiet. In many cases their advertisements disappeared from their usual places. Now they are gaining courage again. The American people have proverbially a very short memory for such exposures. The "patent medicine" people dread very much the organization of a national department of health, because this will sadly interfere with their now happy prospect of reviving their business and fattening their purses at the cost of the health of our people. This is one element in the opposition organized for ill-health.

There are others. There are a number of people in this country who would like to be freer to foist drugs, impure foods and questionable products of many kinds on our inhabitants, so as to make money, cost what it might in the health of those who consumed them. The consumer's purse they are interested in, but not his health. The organization of the national bureau of health, with its strict enforcement of the Food and Drugs Act, and its sure tendency further to protect by legislation the health of our people, is a dread specter to such exploiters of the public, and, of course, they want to lay it if possible.

The League for Medical Freedom has a rallying cry. It is that the doctors are trying to create a medical monopoly—a doctor's trust. They insist that the Owen bill is due to the American Medical Association. As a matter of fact the bill emanates from the senator from Oklahoma himself, and the movement for a national department of health has been organized, not by the American Medical Association, but by the Committee of One Hundred of the American Association for the Advancement of Science. This organization, as is well known, consists not of physicians, but of the united scientists of the country, and only a very small proportion of physicians are in the membership. The Committee of One Hundred contains the names of many of the representative thinking citizens of this country. They come from all over the country. It is absolutely absurd to talk about such men organizing a medical trust. Practitioners of all the different cults in medicine are agreed that a national department of health would be a good thing, and cannot possibly interfere with present state laws as to medical practice. This organization of opposition should of itself be a strong argument for the Owen bill. We have the Organization of Ill Health for commercial reasons. Let us recognize and appreciate at their true value exactly the elements that are engaged in it.

State Boards of Registration

COMING EXAMINATIONS

CALIFORNIA: San Francisco, August 2. Sec., Dr. Charles L. Tisdale, 929 Butler Bldg., San Francisco.

NEBRASKA: State House, Lincoln, August 10-11. Sec., Dr. E. Arthur Carr, 141 S. 12th St., Lincoln.

District of Columbia January and April Reports

Dr. George C. Ober, secretary of the Board of Medical Supervisors, reports the written examinations held at Washington, January 11-14, and April 12-15, 1910. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75.

At the examination held in January, the total number of candidates examined was 8, of whom 4 passed and 4 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Howard University	(1906)	75.1
George Washington University	(1908)	77.6
University of Iowa, College of Medicine	(1907)	84.4
Leonard Medical School	(1905)	76
FAILED		
George Washington University	(1908)	72.5
Georgetown University	(1909)	69.5
Howard University	(1909)	73.3
Royal University of Naples	(1909)	71.3

At the examination held in April the total number of candidates examined was 10, of whom 6 passed and 4 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
George Washington University (1908) 75, 81.3; (1909) 75.8,		78.9
Howard University	(1909)	76.7
Royal University of Naples, Italy	(1909)	79.7
FAILED		
Georgetown University	(1909)	**73.7
Howard University	(1909) **70.3,	*73.9
University of Virginia	(1903)	59.3

LICENSED THROUGH RECIPROCITY SINCE JANUARY 1, 1910

College	Year Grad.	Reciprocity with
College of P. & S., Baltimore	(1886)	Delaware
Maryland Medical College	(1905)	Maryland
University of Virginia	(1904) (1907)	Virginia

* Second examination.
** Third examination.

South Dakota January Report

Dr. F. W. Freyberg, secretary of the South Dakota State Board of Medical Examiners, reports the written examination held at Sioux Falls, January 12-13, 1910. The number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 30, of whom 26 passed and 4 failed. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined.
Georgetown University	(1895)	1
Coll. of P. & S., Chicago	(1905) (1908) (2, 1909)	4
Northwestern University Med. School	(1908) (1909)	2
American Coll. of Med. and Surgery	(1905)	1
Rush Medical College	(1885) (1906)	2
Bennett Medical College	(1908)	1
Keokuk Med. Coll., Coll. of P. & S.	(1901) (3, 1908)	2
University of Iowa, College of Medicine	(1909)	2
Sioux City College of Medicine	(1908) (1909)	2
Univ. of Minnesota, College of Medicine	(1894) (1899)	2
Barnes Medical College	(1908)	2
Kansas City Medical College	(1895)	1
Creighton Medical College	(1908)	1
McGill University, Quebec	(1900)	1
FAILED		
Hahnemann Med. Coll. and Hosp., Chicago	(1901)	1
University of Iowa, College of Medicine	(1908)	1
Sioux City College of Medicine	(1909)	1
Kansas City Hahnemann Medical College	(1904)	1

New Mexico April Report

Dr. J. A. Massie, secretary of the New Mexico Board of Health and Medical Examiners, reports the written examination held at Santa Fe, April 11, 1910. The number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. Only one candidate, a graduate of the University of Tennessee, 1893, was examined and he failed with a grade less than 75 per cent. Twenty-eight candidates were licensed on presentation of satisfactory credentials. The following colleges were represented:

LICENSED ON CREDENTIALS

College	Year of Grad.
Northwestern University Medical School	(1900)
Illinois Medical College	(1902)
National Medical University	(1906)
Louisville Medical College	(1893) (1906)
Hospital College of Medicine, Louisville	(2, 1903)
University of Louisville	(1909)
Southwestern Homeopathic Med. Coll., Louisville	(1903)
Detroit College of Medicine	(1905)
Ensworth Medical College	(1900)
Barnes Medical College	(1897) (1898)
Washington University, St. Louis	(1904)
St. Louis College of Phys. & Surgeons	(1906) (1908) (1909)
Creighton Medical College	(1902)
Northwestern Medical College, St. Joseph	(1890)
Albany Medical College	(1898)
Cleveland Homeopathic Medical College	(1898)
Medical College of Ohio	(1895)
Jefferson Medical College	(1883) (1888)
Vanderbilt University	(1894) (1901)
Medical College of Virginia	(1901)
University of Virginia	(1895)

Arkansas May Report

Dr. F. T. Murphy, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, May 10-11, 1910. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 92, of whom 73 passed and 19 failed. Eighteen reciprocal licenses were granted. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
University of Arkansas (1909) 79; (1910) 76, 77, 78, 78, 79, 80, 80, 81, 82, 82, 83, 83, 84, 89.		
College of Physicians and Surgeons, Little Rock (1910) 76, 79, 80, 81, 94.		
Hospital College of Medicine, Louisville	(1896)	83
Rush Medical College	(1870)	83
Tulane University of Louisiana (1910) 78, 79, 83, 83, 85, 85, 85, 87, 89, 89.		
St. Louis Coll. of P. & S.	(1896) 84; (1909)	75
Missouri Medical College, St. Louis	(1885)	82
Barnes Medical College	(1910)	88
Washington University, St. Louis	(1907)	86
University Medical College, Kansas City (1910) 79, 81, 83, 84, 85, 87.		
Vanderbilt University	(1897)	82
Meharry Medical College	(1910) 76, 79, 80	86
University of Nashville	(1889) 83; (1910) 75, 80, 81,	85
College of P. & S., Memphis	(1908) 85; (1910)	76
Memphis Hospital Medical College (1886) 82; (1906) 75; (1910) 76, 76, 77, 78, 79, 79, 81, 82, 85, 85, 90.		
Baylor University	(1910)	85
Southwestern University Medical College, Dallas	(1910) 78, 84, 85.	81
FAILED		
University of Arkansas	(1910) 69.2, 73.6, 74.4	
College of Physicians and Surgeons, Little Rock (1909) 65.8; (1910) 56.4, 63.5, 64.9, 70.8.		
University of Louisville	(1909)	72.6
Ensworth Medical College	(1908)	68.6
St. Louis College of Physicians and Surgeons (1908) 67.3; (1909) 69.5.		
Meharry Medical College	(1909) 63.7; (1910)	71.3
College of Phys. & Surgs., Memphis	(1909) 70.3,	74.2
Memphis Hospital Medical College	(1910) 69.8,	71.2
Dallas Medical College	(1903)	69.6

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1902)	Illinois
Jenner Medical College	(1908)	Illinois
College of Physicians and Surgeons, Chicago	(1907)	Missouri
University of Louisville (1877) Missouri; (1892) Kentucky; (1907) Louisiana.		
Hospital College of Medicine, Louisville (1898) Indiana; (1892) Missouri; (1904) Kentucky.		
Kentucky School of Medicine	(1906)	Kentucky
Tulane University of Louisiana	(1896)	Louisiana
Barnes Medical College	(1904)	Missouri
St. Louis College of Physicians and Surgeons	(1903)	Missouri
Kansas City Medical College	(1905)	Missouri
Washington University, St. Louis	(1869)	Louisiana
Vanderbilt University	(1880)	Kentucky
University of Nashville	(1901)	Louisiana
University of Virginia	(1909)	Oklahoma

The following questions were asked:

ANATOMY

1. Describe the temporal bone. 2. Name and describe bone broken in Colles' fracture. 3. What muscles form the tendo Achillis and where is it attached? 4. Give origin and insertion with blood supply of deltoid muscle. 5. What structures pass under Poupart's ligament? 6. Give origin and distribution of portal vein. 7. Give origin and distribution of facial artery. 8. Name the coats of the eye from without inward. 9. Give nerve supply of stomach. 10. Give origin, course and distribution of abducens or sixth cranial nerve.

CHEMISTRY

1. Name five elements and give their symbols. 2. Define an acid, a base and a salt. 3. Define specific gravity. 4. Give composition of atmosphere. 5. What are the two albumins and how distinguished? 6. How would you remove stains of silver nitrate? 7. Give test for albumin in urine. 8. What is the chemical antidote for arsenic? 9. What is uric acid? 10. Complete the following formula: $CaCO_3 + 2HCl =$.

BACTERIOLOGY

1. Give a proper definition of bacteria. Name the three varieties or species of bacteria. 2. What is meant by inoculation? Vaccination? Intoxication? 3. State briefly the theory of immunity that appeals most to you. 4. Explain the mode of action of chemicals used for disinfecting. 5. Give the general mode of procedure for staining bacteria. 6. What is Gram's method of staining? For what is it chiefly used? 7. Describe the tubercle bacillus and give one method of staining. 8. Give method of differentiation between the tubercle and smegma bacillus. 9. What is the value of tuberculin as a diagnostic agent? As a therapeutic agent? 10. Give technic of the blood-serum diagnosis of typhoid fever.

HYGIENE

1. What trades predispose to tuberculosis? 2. What hygienic measures should be followed by those subject to "catching cold?" 3. Describe a sanitary method of disposing of human excretions in small towns and the country. 4. In what diseases should a high altitude be avoided and why? 5. What factors are preferable in the location of a sanatorium for tuberculosis? 6. To what diseases are negroes less susceptible than whites? 7. Define epidemic, endemic and pandemic diseases. 8. How may a physician guard against carrying a disease from one patient to another? 9. How may malarial districts be made healthy? 10. Describe in detail a thorough method of disinfecting a room.

PHYSIOLOGY

1. Describe cartilage. 2. Describe the spinal cord. 3. How does the pneumogastric nerve influence the heart? 4. What percentage of the body weight is lost before death from starvation? 5. What is the composition and action of saliva? 6. What is the source, composition and action of gastric juice? 7. Describe the course of the blood through the heart. 8. Describe the relations of the heart and blood-vessels to the lungs. 9. What are the different types of respiration? 10. What structures are necessary for the production of a secretion? Give three examples.

THEORY AND PRACTICE OF MEDICINE

1. Give diagnosis of amebic dysentery. 2. Give treatment of erysipelas. 3. Give diagnosis and treatment of lobar pneumonia. 4. How may pulmonary tuberculosis be early recognized? 5. Give differential diagnosis between malaria and typhoid fever. 6. Give diagnosis of chlorosis. 7. Give treatment of psoriasis. 8. Give medical treatment of gall-stones. 9. Give treatment of conjunctivitis. 10. Mention four diseases said to have a specific remedy and mention the remedy.

THERAPEUTICS

1. Give rule for determining dose for a child. 2. Describe the effects of an overdose of chloral hydrate. 3. What are the therapeutic uses of sodium chlorid? 4. What is the safest as well as one of the most efficient antipyretics? 5. What is the therapeutic action of resorcin? 6. Name the therapeutic uses of olium tiglii. 7. What are the therapeutic uses of ichthyol? 8. Name three anodynes and give dose of each. 9. In what condition is camphoric acid especially indicated? 10. Name the therapeutic action of valerian.

OBSTETRICS

1. Why is it necessary to deliver the head hastily in breech or foot presentations? 2. What is the cause of phlegmasia alba dolens? 3. What factors make up the expulsive forces of labor? 4. What symptoms and signs would suggest pregnancy in a primipara two months pregnant? 5. Give diagnosis and treatment of a case of occipito-posterior presentation. 6. Give diagnosis and treatment of hydatid mole during pregnancy. 7. Give your management of the third stage of labor. 8. What are the causes of albuminuria and edema during pregnancy? 9. Describe the conditions likely to result in laceration of the cervix and the remedies and treatment you would employ to minimize the danger of such results. 10. How would you treat a case of placenta prævia?

MATERIA MEDICA

1. Differentiate materia medica and therapeutics. 2. Name two alkaloids of nux vomica and give dose of each. 3. Name the official salts of copper. 4. Name the antagonists of cocain and state which one you would prefer in case of cocain poisoning. 5. What is meant by a general anesthetic? Name three general anesthetics in common use. 6. Name three preparations of opium which are in common use and state the amount of each which represents one grain of opium. 7. What effect has benzoin on the urine? 8. Name the most powerful hydragogue cathartic and give its dose. 9. From what source is salicin derived and what is its dose and physiologic action? 10. From what is eserin obtained and what is its physiologic action?

PATHOLOGY

1. Describe the formation of an acute abscess. 2. What are the causes of hemorrhage? 3. State briefly the various etiologic theories of fever. 4. Describe an aneurism and state what conditions are essential for its development. 5. What are the more common pathologic changes found in the aged? 6. Give the significance of albuminuria. 7. What are the anatomic lesions of acute dysentery? 8. Name the pathologic conditions found in malarial hemoglobinuria. 9. What changes take place in the endocardium in chronic endocarditis? 10. Briefly, what changes are found in the spinal cord in advanced locomotor ataxia?

GYNECOLOGY

1. Give the symptoms of salpingitis; also its varieties according to tubal contents. 2. Give the symptoms and treatment of gonorrheal vaginitis. 3. Give your treatment of a case of congenital atresia of the cervix. 4. What are the most frequent causes of pelvic cellulitis? 5. How would you perform trachelorrhaphy and when amputation of cervix in cervical lacerations? Give technic of trachelorrhaphy. 6. What is the differential diagnosis of ascites and ovarian cyst? 7. When is the uterine sound contraindicated? When is the curette indicated? 8. State the causes of sterility in women and treatment of same. 9. Give the active treatment of sapremia; also of septic endometritis. 10. Give the differential diagnosis of acute non-puerperal ovaritis and appendicitis.

SURGERY

1. Define malignancy. Describe the symptoms that characterize (*a*) benign tumors, (*b*) malignant tumors. 2. Describe Nature's effects at repair of (*a*) simple uninfected injuries of the soft tissues; (*b*) infected injuries of the soft tissues. 3. Give the symptoms and treatment of a penetrating wound of the chest. 4. Describe the varieties of hip-joint dislocation and describe in detail two of these varieties. 5. Give the technic of two methods of skin-grafting. 6. Describe lupus. Give the treatment of lupus vulgaris. 7. Give a classification of burns. State the constitutional effects and give the treatment of burns. 8. What is a sebaceous cyst, and how should it be treated? 9. Describe oval (Larrey's) method of amputation at shoulder-joint. What arteries need ligating? Give the method of inserting Wyeth's pins in shoulder-joint amputation. 10. Give in detail the examination tests that should be applied to determine the causes of coma in a patient whose history is unobtainable.

Georgia Homeopathic May Report

Dr. R. E. Hinman, secretary of the Homeopathic Board of Medical Examiners, reports that at the May meeting one candidate, a graduate of the Hahnemann Medical College and Hospital, Chicago, 1891, was licensed through reciprocity with Wisconsin.

Nevada May Report

Dr. S. L. Lee, secretary of the Nevada State Board of Medical Examiners, reports the written examination held at Carson City, May 2-3, 1910. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 4, of whom 3 passed and 1 failed. Five candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent
New York University Medical College	1882)	77.9
Jefferson Medical College	(1902)	88.8
University of Dublin, Ireland	(1877)	84

FAILED

Kentucky School of Medicine	(1906)	57.7

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1900)	(1905) Illinois
University of Michigan, Coll. of Med.	(1893)	Minnesota
Creighton Medical College	(1906)	Nebraska
Cincinnati College of Medicine and Surgery	(1884)	Michigan

The following questions were asked:

ANATOMY

1. Describe location and name the divisions of the osseous labyrinth. 2. What mediotarsal joint is the weakest in the arch of the foot? 3-4. What bones enter into the formation of the ankle-joint? 5. Give origin and insertion of the trapezius muscle. 6. What is the combined action of the gastrocnemius and soleus muscles? 7. At what point in the neck does the common carotid artery divide? 8. Give location and approximate length of the fissure of Rolando. 9-10. How many pairs of cerebrospinal nerves are there? Of those how many pairs are spinal?

CHEMISTRY AND TOXICOLOGY

1. Give chemical test for determining the presence of lactic acid in stomach contents. 2. Give tests in detail for indican in urine. 3. Give the chemical reason why diabetics should abstain from starchy foods. 4. Describe the test for detecting the presence of strychnin. 5. What is synthesis? Mention three coal-tar products extensively used in medicine that are prepared in the chemical laboratory by synthesis. 6. State the antidote to practically all alkaloids, explaining its action. 7. What is tyrotoxicon, and in what is it found? 8. What is the treatment for poisoning by wood alco-

hol? 9. What emergency treatment should be used for poisoning by laudanum? 10. Name a poison, in poisoning by which fats and oils should not be administered. Explain.

PATHOLOGY

1. Give the pathology of amyloid liver. 2. Differentiate between epithelioma and lupus. 3. Give the pathologic changes occurring in a fracture of the skull at the base. 4. Give the pathology of the first and third stages of lobar pneumonia. 5. Give the pathology of erysipelas. 6. Give the pathology of pseudoleukemia. 7. Give the pathology of tabes dorsalis. 8. Discuss the pathology of gall-stone disease. 9. Give the pathology of acute gastritis. 10. Discuss the changes occurring in the spleen during an attack of typhoid fever.

BACTERIOLOGY

1. How is yellow fever conveyed, and how would you prevent its spread? 2. How would you manage a case of typhoid fever in a country with very poor sanitary conditions to prevent its spread? 3. Describe and name the bacillus of diphtheria. 4. How would you detect the tubercle bacillus? Describe it. 5. Describe the *Streptococcus pyogenes* and the *Staphylococcus aureus*, and where are they found? 6. What is meant by the terms antitoxin and immunization? 7. What do you know of the Noguchi method of the serum diagnosis of syphilis? How is tetanus antitoxin prepared and how does it act? 9. Describe the *Streptothrix actinomyces*. 10. Describe the Gram method of staining for bacteria.

PHYSIOLOGY

1. Describe the process of osmosis and give examples in the human economy. 2. Describe urea, its occurrence, variations in quantity excreted and recognition in the voided urine. 3. How can fresh blood stains be distinguished from older blood stains? 4. State where in the human economy the following substances are found: fibrin, chondrin, lucin, hippuric acid. 5. In what manner is the heart beat influenced by the pneumogastric nerve? What is the average number of heart beats per minute in (a) a child 1 year old, (b) an adult 70 years old? 6. Describe the vermicular movement of the stomach and intestines. What purpose does this movement serve? 7. Describe the glands and villi of the intestines. 8. Locate in the brain the seat of the special sense of sight, hearing and smell. 9. What would be the effect on digestion if the pancreatic duct were obstructed? 10. What is the office of the columnæ carneæ?

GENITO-URINARY AND DERMATOLOGY

1. Give the symptoms necessitating fixation of a floating kidney, and describe the operation. 2. Give the local treatment of venereal bubo. 3. What is hydrocele? Describe operations for its cure and state your choice. 4. Describe syphilis in all its stages, and give treatment of each stage. 5. Give symptoms of stone in the bladder. 6. Mention the most common sites of epitheliomata. 7. What is xanthoma? 8. What are the causes and treatment of keloid? 9. What are the causes, symptoms and treatment of bromidrosis? 10. What are the causes, symptoms and treatment of pompholyx?

PRACTICE OF MEDICINE

1. Discuss autointoxication. 2. Give etiology, symptoms and treatment of dilatation of the heart. 3. Differentiate typhoid fever, malaria and septicemia. 4. Describe the characteristic symptoms and course of morbilli. 5. What are the symptoms of abscess of the lung? 6. What is the etiology of progressive muscular atrophy? 7. Give the general symptoms of brain tumor. 8. Differentiate empyema from pulmonary abscess. 9. In what cases would the ophthalmoscope aid in diagnosis? 10. Describe a typical case of laryngismus stridulus.

SURGERY

1. Describe the anastomosis which takes place after ligation of the femoral artery at its middle third. 2. At what point is paracentesis thoracis preferably performed? 3. What is an adenoma? Give plan of treatment. 4. Through what channels is carcinoma disseminated? 5. Where is the swelling and fluctuation most prominent in synovitis of the ankle-joint? 6. Give a classification, either original or from competent authority, of burns. 7. What are the conditions which render excision of the lower jaw advisable? 8. What are the complications of dislocation of the hip? 9. Name the varieties of shoulder joint dislocation. 10. What operations are performed for intractable neuralgia of the fifth nerve?

MATERIA MEDICA AND THERAPEUTICS

1. What drug is antagonistic to pilocarpin? 2. State the source of ichthyol, and give its use in medicine. 3. Describe the therapeutic action of spigelia. 4. Describe the therapeutic uses and the dangers of chloral hydrate. 5. Give the chief source and the dose of gallic acid. 6. Describe the therapeutic uses of chromium sulphate. 7. Describe the treatment of cerebrospinal meningitis. 8. What are the therapeutic uses of strophanthus? 9. Correct the following prescription:

℞ Atropiæ Sulphati ..... grs. 1 ss
Potas. Iodidi ..... ½ oz.
Infusæ Digitalis ..... ½ fl. oz.
Elix. Simp. q. s. ad ..... 2 fl.oz.
M. S. Teaspoonful in water four times a day.

10. Give the theory of the alkaline treatment of rheumatism.

OBSTETRICS

1. Give the signs, approximate weight and length, and two principal diameters of the cranium of a fully developed fetus. 2. In what proportion do twins to single fetuses develop? Triplets to single fetuses? 3-4. Give diagnosis of fetal syphilis. What particular sign is most suggestive and generally accepted? 5. Give treatment for inevitable abortion. 6-7. Give your technic in treatment of face presentation. What is the fetal mortality in such cases? With that of the maternal? 8. Give treatment of post-partum hemorrhage. 9-10. Give treatment for prolapsed cord. In whose position is it generally recommended that the patient be placed?

Book Notices

THE HEALTH OF THE CITY. By Hollis Godfrey, Author of "An Elementary Chemistry," etc. Cloth. Price, $1.25 net. Pp. 372. Boston: Houghton Mifflin Co., 1910.

This is one of the commendable books appearing so frequently nowadays, intended to educate and inform the public in matters of public and personal hygiene and sanitation, in this instance with particular reference to cities. It takes up such subjects as air, water, waste, food, housing, noise, their harmfulness or harmlessness, and also of civic conditions working for evil, and emphazing the necessity of the citizen placing greater reliance on the deductions of modern science in matters pertaining to his welfare. Feeding is not only a sociologic but also an economic problem, and employers of labor should recognize more clearly that a stipend which affords a better diet means better work and more of it. Factory luncheons are an economic benefit to employers, and community kitchens would also be beneficial. The making of food is a problem of sociology and natural science, and improvement in this direction depends on the laboratory investigator whose researches are gradually reducing dietetics to a science, and on the public spirit of societies and corporations who will make an effort to benefit the individual, and increase total efficiency through individual gain in power. Much of the time spent in present methods of education might better be devoted to education in cooking and to the household arts. The author believes that the housing problem of the future lies outside the city walls. The vision of the time to come shows the suburbs encircling the massed workshops, the homes of the employees set in the green trees and surrounded by playgrounds and fertile gardens. The book is made up for the most part of a series of articles formerly appearing in the *Atlantic Monthly*, and has a distinct literary quality.

LA TENSION ARTÉRIELLE EN CLINIQUE. Sa Mesure: Sa Valeur Séméiologique. Par le docteur Louis Gallavardin, Médecin des Hôpitaux de Lyon. Paper. Price, 4 francs. Pp. 206, with 70 illustrations. Paris: G. Steinheil, 2, rue Casimir-Delavigne, 1910.

The book is divided into two parts. Part I deals with the technic of sphygmomanometry. Part II is a treatise on the clinical value of blood-pressure determinations.

The author gives accurate description of the various instruments used in measuring and recording blood pressure. For the determination of systolic blood-pressure he prefers the Riva-Rocci method, using the wide arm-band. This method has been experimentally verified in man by Müller and Blauel at the seat of amputation of the arm. They found that the Riva-Rocci reading was about 7.5 per cent. higher than the pressure obtained by a cannula within the artery. For determining the diastolic pressure Gallavardin prefers the method which permits one to perceive the first arterial collapse as the arm bracelet is relaxed.

In the clinical portion of this monograph the usual causes of hypertension and hypotension are set forth. The author considers hypotension so constant in atrophic cirrhosis and in pulmonary tuberculosis that the finding is of great diagnostic value. The "pulse-pressure" is discussed at length. Its chief value is in throwing some light on the amount of work performed by the heart.

The book is written in an interesting and suggestive style, but one is not impressed with a richness of clinical observation. No space is given to the important rôle of therapeutics as it relates to disturbances of blood-pressure.

HEART DISEASE, BLOOD-PRESSURE AND THE NAUHEIM-SCHOTT TREATMENT. By Louis Faugeres Bishop, A.M., M.D., Clinical Professor of Heart and Circulatory Diseases, Fordham University. Pp. 284, with illustrations. Third Edition. Cloth. Price, $3. New York: E. B. Treat and Company, 1909.

This edition differs from its predecessors chiefly in its consideration of the so-called Schott or Nauheim treatment. This is briefly considered, both as it is carried out at Nauheim and as it may be practiced in other places. The technic of the resistance movements is made plain by figures with good descriptive text.

The rest of the book is much the same as in the second edition, which has been previously noticed. It is in no sense a treatise on heart disease or blood-pressure—in fact, makes no claim to be such—but contains rather the personal views

of the author on some of the questions pertaining to these conditions. Emphasis is laid on the importance of the peripheral vessels in the production of permanently high blood-pressure; and the influence of mental hyperactivity and of the strenuous life in ultimately leading—through peripheral vascular contraction and overwork of the heart—to high blood-pressure and cardiac hypertrophy with consequent cerebral, cardiac or renal breakdown, is clearly set forth. Attention is justly called to the occurrence of primary and secondary low blood-pressures.

The book contains many suggestive hints as to physiologic and practical points concerning circulatory disease.

DISEASES OF THE EYE. A Hand-book of Ophthalmic Practice for Students and Practitioners. By G. E. deSchweinitz, M.D., Professor of Ophthalmology in the University of Pennsylvania and Ophthalmic Surgeon to the University Hospital. Sixth Edition. Cloth. Price, $5 net. Pp. 945, with 351 illustrations. Philadelphia: W. B. Saunders Co., 1910.

Much new material has been added in the sixth edition of this work and the former work thoroughly revised. Almost every department has been amplified. In refraction the use of the crossed cylinder is discussed. Especially valuable is the part dealing with the important subject of the relation of nasal accessory sinus disease to disease of the ocular apparatus. Many new operative procedures are described, notably those of Herbert and LaGrange, for establishing filtering cicatrices in glaucoma, and the Smith operation for the removal of cataract in the capsule. The chapter on plastic operations about the orbit and on the lids has been enlarged. The author's well-known and recent work on papilledema in brain tumor has been added. The subject of vaccine therapy has also been fully dealt with and especial attention has been given to ocular tuberculosis and the use of tuberculin in diagnosis and treatment. Altogether, this text-book continues to hold the front rank among ophthalmic manuals that it has occupied for so many years.

MEDICAL VADEMECUM IN GERMAN AND ENGLISH. By B. Lewis. With Preface by Dr. A. Politzer. First Edition. Cloth. Price, $5 net. Pp. 559. Philadelphia. P. Blakiston's Son & Co. [1910].

We have in this work an ingenious method of conveying at the same time a knowledge of medical German and information on important medical topics. The plan consists of giving in German and in English, on opposite pages, the text of post-graduate lectures by the teachers at the Vienna school. The German and the English translation are constructed in such manner that no dictionary is necessary in reading the text. The student thus becomes acquainted with the usual medical terminology and by numerous examples learns the phraseology needed for conducting the examination of a patient in a foreign language. The lectures, to the number of sixty, cover a variety of topics in the various specialties of medicine. We hope that this experiment will assist greatly in the acquisition of the German language by American physicians studying abroad, and will also facilitate the acquisition of a more intimate acquaintance with German medical literature.

KURZGEFASSTES LEHRBUCH DER KINDERHEILKUNDE FÜR AERZTE UND STUDIERENDE. Von Dr. Carl Seitz, A. O. Universitätsprofessor und Vorstand der Kinderpoliklinik am Reisingerianum in München. Third Edition. Paper. Price, 13 marks. Pp. 558. Berlin: S. Karger, Karlstrasse 15, 1910.

As the name implies, this book is a brief but comprehensive text-book of pediatrics for students and practitioners. It is lucidly and concisely written and embodies the results of the very latest researches in every department of pediatrics. It records, for example, the very most recent and epoch-making work of the Berlin school (Finkelstein, etc.) in the subject of infantile nutrition and its disturbances. Beyond this the work offers no striking individuality, and no superiority over other well-known German text-books on diseases of children.

HANDBOOK OF ANATOMY. Being a Complete Compend of Anatomy, Including the Anatomy of the Viscera and Numerous Tables. By James K. Young, M.D., Professor of Orthopedic Surgery, Philadelphia Polyclinic. Third Edition. Cloth. Price, $1.75 net. Pp. 402, with 172 illustrations. Philadelphia: F. A. Davis Company, 1909.

This is the third edition of a handbook prepared for students and those wishing to review the subject. The book is more elaborate than a quiz-compend and more condensed than a text-book. It will doubtless be of value to those desiring an up-to-date summary of the subject.

Medicolegal

Validity of Health Department Regulations of Ice Cutting

The Third Appellate Division of the Supreme Court of New York says, in People vs. Kirk (119 N. Y. S., 862), that the right to take private property without compensation for the public good is an extraordinary right, justified only by absolute necessity. Where the public good can be conserved by the regulation of a right, the power to destroy does not exist. It would seem undoubted that the harvesting of ice might be placed under such regulations as to give substantial guaranty that the purity of the water would not be endangered. With the possibility of efficient regulation, to prohibit the cutting of ice, or of the necessary means thereto, is beyond the power of the health officer. A contrary holding would work both private and public mischief. Much of the ice throughout the state is harvested from lakes or ponds, which are to an extent the source of the water supply of cities and villages. The power to prohibit the taking of ice from such sources would deprive the public of a large part of the ice which is now furnished for its health and comfort. These considerations are not without weight in the condemnation of a health order so drastic as the one involved in this case, which prohibited the cutting of ice with men and teams on lakes and ponds used as a source of water supply for cities and villages.

It was insisted, however, that if that part of the order prohibiting the cutting of ice be void, nevertheless the remainder might stand, namely, that part forbidding horses and men from going on the ice. It does not appear, however, that ice can be otherwise harvested. These are the instrumentalities that are ordinarily used for that purpose. If their use be prohibited, the harvesting of ice is practically enjoined. On the evidence the danger to the public health lies in the chance of contamination from typhoid germs; but horses never have typhoid fever, and men so afflicted are not usually at work in ice fields. Even if it be assumed that a man might have typhoid for some time before it is diagnosed, the possibility of danger is so remote as not to be substantial. If this order, prohibiting men and teams from going on ice where the water may be used for general purposes, be valid, the cutting of ice may be stopped on the Hudson river, and in fact on any river in the state, which would be a result more deplorable than would come from the possible slight contamination by reason of the use of horses and men in harvesting ice under proper restrictions and regulations.

Therefore the court holds that a release of a party from imprisonment for violating the health-department order in question must be affirmed.

Appointment, Contract With, Removal and Compensation of City Health Officer—Powers of Board of Health

The Court of Appeals of Kentucky says, in Young vs. City of Ashland (125 S. W. R., 737), that there is no provision in the charters of cities of the fourth class with reference to the election of health boards, or health officers, so that sections 2059 and 2060 of the Kentucky Statutes apply to such cities. Under the statute, the appointment or removal of health officers is not lodged in the city council. The only authority the council has is to provide for the health officer a reasonable compensation for his services. The power of appointment as well as removal of this officer is lodged in the board of health.

As the board of health, as it had the right and authority to do, removed Dr. Young from office, it is manifest that he could not by virtue of his contract with the city for compensation as health officer maintain an action for a breach of the contract based on his removal from office. He took the office under and subject to the statutes giving the board of health the right to remove him at any time. And so his removal could not be a breach of contract. The only action that Dr. Young could maintain would be one to require the council to compensate him for his services during the time he acted as health officer under the appointment of the board of health.

But, while it was virtually conceded that the city was not under an obligation to compensate Dr. Young as health officer after his removal from office, it was nevertheless insisted that the city council had the power under the city charter to enter into a contract with Dr. Young for the performance of services in connection with the health of the city, and that independent of his appointment as health officer by the health board the city had the right to and did make, through its mayor, a contract with him by virtue of which he undertook to perform a number of duties not imposed on him as a health officer appointed by the board of health. The court does not doubt the authority of the council in a proper state of case to enter into a valid contract with a physician to conserve the health of the city, nor does it doubt that a municipal corporation is liable for a breach of a valid contract entered into by it. Therefore, if it should be assumed that the city council, independent of the board of health and for good and sufficient reasons, entered into the contract in question with Dr. Young it would follow that he might maintain an action against the city and recover damages for a breach of the contract. However, this view of the law had no application whatever to this case, it being clearly established by the proceedings of the board of health as well as the ordinances of the city that the contract entered into by the mayor with Dr. Young was due entirely to the fact that he had been appointed by the board of health as officer for the city. That the contract specified duties not imposed by law or the regulations of the board of health on officers appointed by it did not change this fact.

In disposing of this case the court has assumed that the contract in question entered into between the mayor and Dr. Young was a valid contract for the time he was health officer, although it might well be questioned if the mayor had the authority to enter into any contract with him or to define or prescribe his duties. The mayor did not appear to have been authorized by ordinance or resolution of the board or council to enter into a contract with Dr. Young, nor did the contract purporting to have been made with him appear to have been ratified or approved by the council. In the court's opinion the removal of Dr. Young by the board of health terminated the obligation of the city to pay him further as health officer. Wherefore, a judgment allowing compensation up to the time of his removal, and dismissing the remainder of the action, is affirmed.

Medical Witness Not Allowed to Testify to Surgeon's Competency

The Supreme Court of Alabama says that in Louisville & Nashville Railroad Co. vs. Elliott (52 So. R., 28), a personal injury case brought by the latter party, during the examination of a medical witness the witness testified that a competent surgeon who examined the plaintiff at the time he was hurt would be in a better situation to tell whether he had a fractured pelvis than he (the witness) and that he knew Dr. P. The question was then asked: "Is he a competent surgeon?" This question was objected to, and the objection sustained. In that there was no error. Without the testimony of Dr. P. it would be immaterial whether he was competent or not. He was subsequently examined, and testified as to his medical education and his experience in the practice. It was for the jury to determine what weight to give to his testimony, while it was the province of the court to determine his competency to testify as an expert, which the court did, by admitting his testimony.

Cross-Examination May Extend to Trivial Details

The Supreme Judicial Court of Massachusetts says, in the personal injury case of Minihan vs. Boston Elevated Railway Co. (91 N. E. R., 414), that the plaintiff clearly had the right to cross-examine the defendant's medical expert as to the grounds of his opinion, including what took place at the examination as to her physical condition, which he conducted in the presence of her physician, and whatever was said or done at the interview was competent, even if the inquiry extended to trivial details.

Society Proceedings

CONNECTICUT STATE MEDICAL SOCIETY

One Hundred and Eighteenth Annual Meeting, held at New Haven, May 25-26, 1910

(Concluded from page 339)

Treatment of Infection Following Abortion, Miscarriage and Labor

DR. C. A. MONAGAN, Waterbury: The ideal treatment is preventive—the development of a complete, rigid, aseptic technic. The general use of rubber gloves cannot, unfortunately, be enforced. When the condition is actually present, before the system has become loaded down with bacteria, the uterus should be curetted with a blunt curette; now, if at any time, intrauterine douches may be of service. Antistreptococcus serum has been disappointing in its results. As the prognosis of this grave condition changes very rapidly, undue credit is sometimes given to the remedy last used. The autogenous vaccine treatment has not had very good results, especially in cases of the acute type. The application of hyperleucocytosis often fails to arrest the contagion. I have not seen any good results follow the use of unguentum Credé. Ergot does good by contracting the uterus, thus preventing further infection. The medical treatment is the ordinary supporting treatment used in fighting any toxic condition. All drugs irritating to the stomach should be avoided. The patient's strength should be kept up by a liberal supply of nutritious food. Salt solution in large quantities is the best single means of controlling the inroads of sepsis. The temperature should be controlled with wet packs, sponging, cold baths, and abdominal coils. Opening into Douglas' pouch and packing with iodoform gauze has been advocated; also hysterectomy, for those patients who fail to improve after curettage. The latter procedure would be of use in cases caused by the presence of a suppurating tumor. In septic peritonitis, multiple incisions, thorough drainage, and the constant use of saline rectal infusions offer the best means of treatment. If a collection of pus can be located, it should be opened and drained.

DISCUSSION

DR. S. M. GARLICK, Bridgeport: While I would not abate one iota of the needful care in all cases of labor, I am far from convinced that every maternity case should have the same preparation and management as an abdominal section requires. The modern woman, with her highly apprehensive organism, is often brought to the verge of a state of nervous breakdown by the anticipation, worry, and fear engendered by such elaborate, detailed and expensive preparation. So often has my hospital experience shown me the bad results of indiscriminate and routine curettage that I am sometimes led to wish it had never been introduced. Antistreptococcus serum has been disappointing in my hands and under my observation. With autogenous vaccine treatment, I have had no experience. Two cases of hysterectomy for septic metritis have proved fatal. I have had no experience with unguentum Credé.

DR. R. W. CRANE, Stamford: Dr. Monagan outlined one method of treatment after another, as did Dr. Garlick afterward; and both said that these were all without merit. The treatment is prevention.

DR. T. G. SLOAN, Hartford: I recently saw in consultation a woman who died, at the end of ten days, of puerperal septicemia. It did not seem that she could have been infected by the physician who delivered her. I do not think that any douches were used previous to the confinement, and no nurse came in contact with the patient in a way to infect her. The woman's mother and sister had both died of puerperal septicemia. Where the infection came from, unless from the vagina, it is impossible to say.

DR. A. H. WILLIAMS, Hartford: If the patient realizes that perfect cleanliness will insure her recovery, care of that sort will not scare her. The meaning of the precautions should be explained to her.

Surgical Treatment of Gastric and Duodenal Ulcer

DR. E. J. MCKNIGHT, Hartford: The surgical treatment of gastric and duodenal ulcer and their complications shows a lower mortality and a higher percentage of permanent cures than can be produced by medical treatment alone. None of the complications or sequelæ, except hemorrhage, usually occurs early in the disease, and it is a question whether a perfectly healed, non-indurated scar following ulcer ever gives rise to further trouble. The healthy stomach has the same tendency to recover from injuries caused by traumatism as has any other healthy organ. In patients who do not recover, some extra factor is at work. Investigations point to hypersecretion and hyperchlorhydria as the most important factors in preventing the normal process of repair. The beneficial effects of a gastroenterostomy are due to regurgitation of biliary and pancreatic secretions into the stomach, neutralizing to some extent the excess of hydrochloric acid, rather than to a better drainage of the stomach. I prefer the grouping of symptoms used by Graham in THE JOURNAL of the American Medical Association, August 22, 1908. If the ulcer is located in the abdomen, gastroenterostomy is the operation of choice. In gastric ulcer, however, the removal of the ulcer is the only proper procedure for some cases; although in a majority of cases, a posterior gastroenterostomy is sufficient. Operation is rarely needed for the control of hemorrhage itself. One of the most serious complications of ulcer is perforation, which is more frequent when the ulcer is situated on the anterior wall. The results of the operation performed during the first few hours after perforation are exceedingly good. The patients should be watched as carefully after the operation as before, until a sufficient time has elapsed to enable the attendant to be certain that a permanent cure has been effected.

DISCUSSION

DR. O. C. SMITH, Hartford: It takes a reasonable length of time to determine whether medical treatment is to be successful or not. After this, the ulcer becomes a surgical disease. The fact that conditions lower down develop symptoms so similar to those of gastric ulcer that they are confused with it has been referred to; and the fact that many carcinomas develop on the basis of a gastric ulcer emphasizes the importance of early operation. It is not possible to tell before operation just what condition we are dealing with, and this argues for more frequent resection of the portion of the stomach bearing the ulcer. We should use a soluble material for sutures in the inner coat.

DR. E. W. SMITH, Waterbury: It is unusual to find present in one patient a healed ulcer and the production of symptoms of pyloric stenosis due to conditions lower down in the intestines. I have seen a case that showed these points. The man had had a peptic ulcer that had been healed by medical treatment. He then had pylorospasm simulated by an irritated appendix. When there is a gastric ulcer, the appendix had better be looked out for also.

DR. W. H. CARMALT, New Haven: I think that Dr. McKnight has not made so much of the symptomatology of supposedly cured patients as he should. The condition of relief obtained from a course of medical treatment is not a cure, but simply a temporary condition of improvement. When several such series of symptoms occur in a patient, it is time to cease medical treatment.

DR. W. F. VERDI, New Haven: There is a difference between a chronic ulcer and a perforating ulcer. Perforating ulcers come on, as a rule, in persons between 28 and 30 years of age. The symptoms are not usually severe, and the patients are able to continue their work. They are usually seized with the perforation while at work, and are brought to the hospital suffering intense pain that requires immediate relief. At first, it is the right half of the abdomen only that is affected. The intestinal contents are poured out under the surface of the liver, and go toward the right iliac fossa. The chronic ulcer is different. The patients have a long train of symptoms, going on over a number of years; and in these cases there is not much danger of perforation, because the ulcers are protected from perforation by a great many adhesions that form about them.

DR. L. M. GOMPERTZ, New Haven: It is extremely important for the medical man constantly to bear in mind that ulcers of the stomach and duodenum are much more common than is usually supposed. When patients complain of pain on an empty stomach, relieved by eating food, and then coming on again within from two to four hours, one should be suspicious of the presence of an ulcer at the pylorus or lower down. When an early diagnosis is made, the very acute ulcers are sometimes benefited by medical treatment; but it does not make any difference how patients with chronic ulcers are treated, for they will still have the ulcers. If they are to be cured they must be sent to the surgeon for operative treatment.

DR. MCKNIGHT: We are all coming to feel that for ulcer of the stomach resection or partial gastrectomy is the operation of choice, considering the large numbers of cancers that develop on the basis of ulcers. I have operated in more cases of appendicitis that simulated gastric disease than I have on gastric ulcers; so these cases are not so rare as Dr. Smith thinks. Regarding Dr. Verdi's distinction between the two classes of ulcers, I would say that in the case of a man of 55 there was a chronic ulcer with sudden perforation.

Treatment of Fractures

DR. G. W. HAWLEY, Bridgeport: The treatment of fractures does not appear to have kept pace with the advance of modern surgery, and does not meet present-day needs. The enormous number of persons who are crippled every year as the result of fracture offers a challenge to surgical science. This industrial age will soon ask what is being done to lessen the great industrial loss through fractures. There is room for common sense in laying down principles on which treatment should be based. In all fractures, the bones tend to unite without assistance of any kind. The most that we can do is to help Nature to obtain useful union, and the only way to do this is by approximating the ruptured tissues, on the principle that the more accurate the approximation, the more perfect will be the repair. There is need for better means of holding divided bones in apposition, and there is opportunity for improvement in the technic of operations on fractures, based on the fact that bone stands trauma or infection but poorly. There is no reason why we should not repair an injured bone as readily as we would any other injured structures, and there is great reason to believe that the future will see an increased interest in fractures and a creditable advance in their treatment.

DISCUSSION

DR. P. D. BUNCE, Hartford: In general surgery, if the patient dies, he dies in an orthodox manner; and that is the end of him. If he has a fracture, however, and he has any final disability or deformity, the surgeon is judged to be the cause; and a monument of his skill exists so long as the patient lives. In general, accurate replacement of bones gives the best results, regardless of particular kinds of splints. Severe laceration of the soft parts often makes the application of splints and supports very difficult. Sutures of soft parts should practically never be used in compound fractures. In my opinion, any method of fixation in which nails or drills are allowed to remain projecting through the skin is bad. I believe that *x*-ray pictures should usually not be shown to the patient.

DR. W. H. CARMALT, New Haven: I am rather surprised at the pessimism of Dr. Hawley compared with the optimism that I feel with regard to our success in the treatment of fractures. The principles of the care of fractures have not changed; we simply must restore the parts as nearly as we can. In these days of antiseptic surgery, there is no reason to hesitate to attack a bone that is not in good position and in which one thinks that there will be a bad functional result. It is not worth while to cut down on every bone that the *x*-ray shows is not in perfect apposition; if, from experience, one feels that the limb is going to be useful, let well enough alone.

DR. S. M. GARLICK, Bridgeport: It is all very well to take the public into our confidence, provided that everything is all right; but sometimes we discover that some things are not so right as we would like to have them. Professional confidence

is wise and safe, but public confidence must be very carefully scrutinized.

DR. HAWLEY: We certainly see a large number of deformities following fractures, and it has been impressed on me that a large proportion of these are unnecessary. In some fractures, too much treatment is done. I think that in a good many cases, little or no treatment other than protection is necessary.

Some Principles of Intracranial Surgery

DR. W. H. VERDI, New Haven: The greatest difficulty encountered is not in the surgical technic, but in the cerebral localization. One should not wait too long after making a diagnosis of increased pressure before decompressive measures are instituted; if one does, there is danger of loss of vision. I do not consider operations on the brain and cord any more dangerous than operations elsewhere. The most troublesome thing encountered is hemorrhage; and infection is the second chief factor in the mortality of these operations. In my whole series of cases, however, I was obliged to stop only once on account of hemorrhage; and the only case of infection was that of a child operated on for a tumor of the cerebellum that at the time of operation proved to be a tuberculoma. This operation was performed in a private house, and the patient afterward became infected. There is nothing to be gained by the introduction of needles into the various parts of the brain in the exploration of tumors, as they usually have a consistency not very different from the brain itself. An operation for decompression is indicated in all cases that cannot be localized. I have seen the administration of iodids and mercury to patients with symptoms of intracranial pressure kept up until the patient's vision was destroyed. The use of chloroform or ether as the anesthetic is a mere matter of individual choice. While the results of operations for tumor of the brain are not so satisfactory as they should be, I consider the operation itself comparatively devoid of danger.

DISCUSSION

DR. L. W. BACON, New Haven: What little I have to offer in the way of remarks is based on a case of brain tumor in which Dr. Verdi was kind enough to assist me. The interesting part of the condition was the after-progress of the case. A hole was left in the brain substance as large as a turkey-egg. When we came to withdraw the last piece of gauze, and there was nothing left in the cavity to act as a cushion, we had a repetition of the pressure symptoms. For an interval of three or four days, the progress of the case was somewhat in doubt. After that, the woman went along very nicely to recovery; and she is well to-day. So far as I know, this was the first case of brain tumor removed in this city with the survival of the patient. Another case was one of the largest brain abscesses that I have ever seen. There was almost complete blindness when the operation was done, and there was entire recovery except for the sight. If the operation had been done a week earlier, I think that the girl would not have been blind to-day. This emphasizes the fact brought out by Dr. Verdi, that when cerebral compression exists, interference must not be too long delayed.

DR. M. MAILHOUSE, New Haven: I suggested to Dr. Verdi that in a case of cerebellar tumor in which there was marked bulging of the cerebellum from the great intracranial pressure, a slight incision be made between some of the laminæ, thus possibly permitting the pressure to extrude the growth. This actually took place, and the patient was saved the loss of any material amount of brain substance. This same procedure might equally well be pursued in other areas of the brain. Opinions as to the presence of neoplasms based solely on the appearance of choked disc and pain are sometimes erroneous, as specific disease at the base may give this picture; yet when in doubt, and the optic discs are in such a condition as to threaten vision, the safest procedure for the patient is at least a decompression operation. In cases of fracture without extreme evidence of local injury, when the symptoms indicate increasing hemorrhage, the unilateral dilatation of the pupil is often an aid in localization. Of greater value, however, is the occurrence of unilateral convulsions on the contralateral side. That convulsive phenomena indicate cortical irritation was evidenced by the case reported by Dr. Verdi, in which, also, immediate incision of the dura at the time of the operation, in order to relieve pressure, was indicated. In the prognosis of the results after operation, one should be guarded.

DR. W. H. CARMALT, New Haven: The last sentence of Dr. Mailhouse's remarks leads me to speak of a case of operative infiltrating glioma of the cerebellum in a patient previously operated on unsuccessfully for decompression, the boundaries of the tumor not being made out. There has been no recurrence of the tumor since, and I think that these cases are worth putting on record.

Treatment of Tuberculous Patients Outside the Sanatorium

DR. B. D. DEMING, Waterbury: Tuberculosis is a disease that needs careful medical attention and nursing. The attempt to treat outside of sanatoria patients in the social station in which the disease abounds is a poor substitute for sanatorium treatment. The disease, however, will not be eradicated by the establishment of sanatoria that admit only patients in incipient stages, while rejecting those in advanced stages and discharging patients who they fail to improve. The latter will become advanced cases, and thus spread the disease among others. Tuberculosis may be prevented, but not without the expenditure of vast sums of money to care for advanced and chronic cases in sanatoria, and to aid the different families thus deprived of their wage-earners. The giving of employment to uncured patients discharged from sanatoria is not unattended with danger to the community. The first and most important factor in the treatment of tuberculosis is to prevent its communication to others, and the second is to benefit the patient. Both these factors are, with the vast majority of patients, more advantageously carried out in a sanatorium than at home.

DISCUSSION

DR. DAVID R. LYMAN, Wallingford: There is no tuberculous patient who does not have to be treated outside the sanatorium. Practically all that the sanatorium does is to arrest the disease. Every tuberculosis patient needs treatment for years after he gets home. The most dangerous point in the case is when the patient has got where he looks and feels perfectly well. He then has anatomic but not clinical tuberculosis; but he must be watched for several years, in order to make certain that the anatomic disease does not become clinical. We often see cases of tuberculosis carried on to arrest by the general practitioner as thoroughly as in any sanatorium; but this is not enough. The patient should be instructed to come back for examination at regular intervals, whether he is feeling badly or not. I do not believe that a good light indoor occupation is so bad for such persons as it is considered to be. If the patient's life can be regulated during the fourteen hours when he is not at work, he will probably recover. If he has a sleeping-porch he is out of doors a good part of this time. I do not believe in forced feeding or in overfeeding. Most of the stomach symptoms are due to this.

DR. HENRY F. STOLL, Hartford: There are many people who can work and recover from tuberculosis; and a good many people who can play, and recover; but very few who can both work and play, and get well. If these patients will go to bed at half past seven, a good many will recover and stay well under home treatment. With private patients, good results are obtained with tuberculin; it relieves the toxic symptoms and that is a great help. Patients who take tuberculin relapse less frequently and live longer than those who do not take tuberculin; but great harm can be done if it is not used properly.

DR. I. E. BRAINARD, Wallingford: The handkerchief that is held before the patient's mouth when he coughs should be well taken care of afterward, and not stuffed into the pocket with damp sputum on it.

DR. E. P. SWASEY, Hartford: Outdoor treatment is not possible in our part of the country in certain seasons. In March we had high winds and the atmosphere was filled with dust. Many persons, unless especially instructed, would keep the patients outside in such weather, thinking it beneficial.

DR. DEMING: The matter of climate and location must be taken into consideration; but one of the greatest advantages

of keeping the patient out of doors, even when it injures him, is the decreased risk of exposure to the other members of the family. A piece of gauze, sufficiently thick not to wet through, is better than a handkerchief, as it can be burned.

Some Features of Rectal Alimentation

DR. L. M. GOMPERTZ, New Haven: There is a wide difference of opinion among investigators as to the absorptive power of the rectum. In some experiments that I conducted in order to determine this point, I found salt to be absorbed almost as completely as when given by the mouth. Dextrose was either completely absorbed or was made to disappear through fermentation. As all authorities agree that there is practically no absorption of fat from the rectum, no experiments in this direction were made. If nutrient enemata do not reach the small intestine, proteins not predigested, when injected into the rectum, simply putrefy in the large intestine and pass out with the feces. Of the carbohydrates, dextrose was selected because the bulk of carbohydrate food reaches the blood as dextrose. If absorbed in sufficient quantity, it would take the place of protein. From these experiments it was evident that only a little over one-third the necessary amount of calories to sustain the body at rest was daily furnished by the dextrose solutions. Although the experiments were limited to the use of water, sodium chlorid and dextrose solutions, we must conclude that the rectum is capable of absorbing these in the form of rectal enemata; furthermore, that such substances, when absorbed, are helpful in nourishing the body and in supplying fluids and salts to the tissues. Therefore, I consider rectal enemata as useful in sustaining the body in emergency circumstances, preventing complete starvation for a short period.

DISCUSSION

DR. L. B. MENDEL, New Haven: The earlier favorable impressions of rectal feeding have largely been replaced by a skeptical attitude on the part of clinicians, and properly so. Our knowledge of the physiology of the alimentary tract has been greatly extended. It ought, therefore, to be possible to introduce anew such features of rectal alimentation as are promising in principle and susceptible of clinical application. Observations like these emphasize the helpfulness that comes from being able to measure in some way the results that any therapeutic procedure can accomplish.

DR. C. J. FOOTE, New Haven: A nutrient enema is a makeshift, designed to meet an emergency, and cannot be continued for any length of time. It is not intended to furnish proteid or build up the body; but merely to furnish heat and energy, and to prevent retrogression. This can be done by using dextrose in the enema. Dextrose is absorbed rapidly, and furnishes energy; proteid is absorbed less rapidly, and does not furnish energy so quickly. I cannot, therefore, see the advantage of using it, even when predigested. Alcohol fills very much the same place as dextrose. As for the absorption of salt, we should be on our guard in certain cases. I have seen instances in which salt solution was taken readily in cases of uremia, and large quantities were given; but, at the same time, there was a small excretion of urine, so that a great deal was retained in the system. The patient, in such circumstances, becomes water-logged and develops edema of the lungs.

DR. F. P. UNDERHILL, New Haven: Most of the physicians with whom I have talked seem to think that because we cannot supply the entire 1,800 calories, there is no use in employing rectal feeding. I think, however, that it is much better to give half a loaf than to give none. Under the conditions that I have worked with, the carbohydrate rectal feeding has been very successful.

DR. W. L. BARBER, Waterbury: On one occasion, my wife could retain nothing on her stomach but water. For over a week, I kept her up on rectal alimentation, using milk, beef-juice, whisky and quinin. I do not know whether the rectum received these or the lower intestines, but she recovered.

DR. J. F. CALEF, Middletown: I believe that in vomiting of pregnancy of the severe type, there is, more than is usually apparent in any other disease, a reversed peristalsis, which may carry rectal alimentation more readily to the stomach than in any other case; for I am sure that in one case that I had, a very small portion of milk was carried up into the stomach.

DR. E. PRATT, Torrington: Has Dr. Gompertz made any experiment with predigested protein in connection with the dextrose?

DR. G. A. ELIOT, New Haven: We have all had experience with the difficulty in getting these enemata retained in some cases. It seems a very useful preparation to have the milk partly peptonized by the addition of bicarbonate of soda and extract of pancreas. I have used this, at times, with beneficial results.

DR. GOMPERTZ: I have given predigested protein in days gone by, but had no analysis of the feces made in these cases; so I do not know whether these enemata were absorbed or not. Patients can live for weeks with only water by rectum; but they are in the beginning stage of starvation, as they live on the tissues themselves. As no accurate measurements were made in the case that Dr. Barber spoke of, I think it very doubtful whether any nutrition was furnished by the milk. With the dextrose solutions, we were able to supply nutrients.

Chronic Family Jaundice

DR. W. TILESTON, New Haven: The disease is characterized by chronic icterus, of moderate intensity, with enlargement of the spleen and anemia. It is usually hereditary; less often, familial or acquired. Males and females are affected with equal frequency. The jaundice is of the non-obstructive type, with well-colored stools and absence of bile in the urine. There is usually a marked urobilinuria. The blood shows the presence of bilirubin and a considerable degree of anemia of the secondary type. The spleen is markedly enlarged; the liver, only slightly so. The patients suffer frequently with "bilious attacks," gallstone colic, and nosebleed; but are otherwise fairly healthy, and often live to a good old age. The red corpuscles are abnormally fragile and readily destroyed; hence, the anemia, and an increased formation of bile pigment from the hemoglobin thus set free. This leads to the icterus, which is pleiochromatic in origin. The prognosis is good for life; absolutely bad for recovery. Treatment should be confined to general hygiene. Iron may be tried for the anemia. The presence of colic is an indication for the operative removal of the gall-stones. I have reports of thirteen cases, occurring in four families.

DISCUSSION

DR. G. BLUMER, New Haven: When the patients are first seen at night, they ought to be seen again in the daytime, in order to make out the jaundice. Has Dr. Tileston seen any suggestion of a relation between this disease and paroxysmal hemoglobinuria, another disease in which there is excessive fragility of the red blood corpuscles? So far as I know, although other varieties of hemolytic jaundice have been described, there is no statement to the effect that there is an absence of bile in the urine in these other forms. Another point that might cause confusion is the so-called Gaucher's disease, in which there is family enlargement of the spleen, but not usually associated with jaundice. It is interesting to consider whether, if there were actual obstruction from gall-stones, as well as the other type of jaundice, the urine would contain bile. One other point that should be emphasized is not to remove the spleen in such cases.

DR. TILESTON: There was one case in which there was a condition of paroxysmal hemoglobinuria associated with the family jaundice, but there is not a very close relationship between the two diseases. Regarding the absence of bile in the urine in other types of hemolytic jaundice, there was usually no bile, but only urobilin; although in some cases there was a small amount of bile. Eleven of the twelve reported instances of Gaucher's disease were in females, so it would be unlikely to have been Gaucher's disease in my cases. When the patients get obstruction with gall-stones, they also get bile in the urine, with increase of jaundice.

Periodic Attacks of Indigestion in Children

DR. W. G. MURPHY, East Hartford: Diacetic acid is one of the highest chemical compounds associated with acetone, and

is the result of intestinal decomposition of food. Various theories have been suggested associating diacetic acid with cyclic vomiting and recurrent attacks of indigestion. The exciting causes of the attacks of vomiting are fright, excitement, fatigue, anger, exposure to cold, and similar influences acting through the nervous system. Many argue, also, that the attacks are not due to errors in diet. Acetone may be present in other conditions; and the neurotic and rheumatic aspects must be recognized as contributing causes. The condition is, I believe, a neurosis, toxic in character, based on a defective nervous control, the result of an inherited unstable and irritated nervous system. If this idea is correct, treatment should be directed to the cause, and not to the result. Most of the children are neurotic and anemic. On account of their digestive troubles, they are often underfed. A full and generous diet should be given them, and general care of the hygienic conditions. On the appearance of symptoms of an attack, stop food and thoroughly clean out the digestive tract with castor oil, and give repeated doses of sodium bicarbonate.

DISCUSSION

DR. F. P. UNDERHILL, New Haven: There is little doubt that the symptoms described by Dr. Murphy are dependent on defective nervous control. It is well-known that a child is much more easily put into a condition of defective nervous regulation than is an adult. Excessive putrefaction in the intestine may serve as a stimulus in these neurotic and under-nourished subjects. I do not think that the presence of diacetic acid in the urine in these cases should be over-emphasized. Acetone bodies probably arise within the body as the result of the incomplete combustion of fats. I believe that diacetic acid is neither the cause nor the direct result of the pathologic condition under discussion; indeed, I should ascribe the presence of this substance in the urine to the condition that accompanies the abnormal manifestation, *viz.*: the undernutrition, in which it may be easily demonstrated that diacetic acid is always present. Young children are thrown into a condition of acidosis with extreme ease; and a moderate degree of acidosis, especially in children, should not be regarded as a grave symptom.

DR. C. A. GOODRICH, Hartford: We should also bear in mind certain intestinal disorders in children in which there is, besides cyclic vomiting and convulsions, a certain nervous phenomenon resembling the beginning of diabetic coma in adults. These cases should be included in considering this matter. Inasmuch as in a good many cases the diet apparently does not influence the attacks, these children become increasingly subject to malnutrition. The suggestion of such a simple clinical test as a considerable aid in certain of these intestinal disturbances, and also the point of considering the patients' well-being between these attacks, are of great value.

The Relative Value of Symptoms, Physical Signs, Tuberculin and the X-Ray in Diagnosis of Tuberculosis

DR. H. F. STOLL, Hartford: In tuberculin we have a diagnostic aid of accepted value, if used in conjunction with the symptoms and physical signs. The *x*-ray is of a great deal of assistance in the diagnosis of pulmonary conditions. The negative must not only be perfect, but the interpretation thereof is of value only when made by one who has had a large experience in this particular field; as it is the most difficult of all *x*-ray work. Incipient cases that have been carefully examined come to post-mortem but rarely; and much more can be learned by a comparison of the physical signs and the *x*-ray findings in a series of early cases than by the autopsies of advanced cases. There is no better way to ascertain one's diagnostic ability or limitations than to compare the physical signs in one's cases with the *x*-ray plate. In deep-seated lesions, especially of the lower two-thirds of the lung, the *x*-ray will sometimes demonstrate a lesion that does not give physical signs. When the involvement is slight, it may be necessary to make several plates before a diagnosis can be given. If we are to detect incipient tuberculosis, we must inspect, palpate, percuss, and auscultate our patients. We must also question them at length. An incomplete examination gives the patient an unwarranted sense of security.

DISCUSSION

DR. W. B. BARTLETT, Hartford: There is a great difference between clinical tuberculosis and anatomical tuberculosis. The relative value of symptoms, physical signs, tuberculin, and the *x*-ray is very different in the two forms of the disease. It is, however, with the diagnosis of clinical tuberculosis that we are concerned. Physical signs, tuberculin, and the *x*-ray, if without symptoms, may all three be disregarded; with symptoms, the diagnosis of tuberculosis may be made, even though signs, the *x*-ray, and the tuberculin test are negative. When obtainable, the history of exposure to infection from some tuberculous relative or friend is important. It is surprising, however, how seldom such a history can be obtained. The importance of malaria in the past history should be emphasized. Among symptoms, pain is very important. I should like to add to Dr. Stoll's statement that râles at the apex may be due to other causes, the statement that râles at the base most frequently are due to other causes. A positive tuberculin reaction does not mean clinical tuberculosis. Notwithstanding the many new and simple tests with tuberculin that have been introduced, we are gradually coming back to a dependence on the subcutaneous method as the most reliable; and even this may occasionally be at fault.

DR. D. R. LYMAN, Wallingford: Dr. Stoll's comparison of the relative value of these four means of diagnosis shows that not one of them is of such supreme value that we can afford to leave everything else out of consideration. About the only thing that he did not mention was the constant occurrence of little localized dry pleurisies in the chest in these cases. Tuberculin is one of the most powerful poisons that we have. I have never seen ill effects from its subcutaneous use in small doses. I do not, however, think it necessary to employ it if the diagnosis can be made without it and the patient is willing to accept one's opinion and act on it. I have never felt like using the eye test, when I could use the subcutaneous test, which is free from danger. I do not think that there is any question that an expert can discover with the *x*-ray deep-seated lesions that an ordinary person would miss.

DR. F. S. CROSSFIELD, Hartford: On behalf of the laryngologist, I would say that in the early stages of pulmonary tuberculosis there are no absolutely pathognomonic symptoms in the larynx.

DR. J. B. GRIGGS, Hartford: While the positive tuberculin test is not valuable, the negative test is. The negative test is particularly valuable in adults, while the positive test is of value in children.

DR. STOLL: As I said in my paper, if the tuberculin test is negative, the possibility of the presence of tuberculosis is very slight; but it does not exclude the disease. Long before the stethoscope was invented, and purely and solely by means of the symptoms, physicians diagnosed tuberculosis. After a careful history has been obtained, it is unusual to have the physical signs not agree with the diagnosis made from the history and the symptoms.

AMERICAN PROCTOLOGIC SOCIETY

Twelfth Annual Meeting, held at St. Louis, June 6-7, 1910

The President, DR. DWIGHT H. MURRAY, Syracuse, N. Y., in the Chair

Officers Elected

The following officers were elected for the ensuing year: President, Dr. George J. Cook, Indianapolis; vice-president, Dr. Jerome M. Lynch, New York City; secretary-treasurer, Dr. Lewis H. Adler, Jr., Philadelphia; executive council, Drs. Dwight H. Murray, Syracuse, N. Y., chairman; George J. Cook, Indianapolis; Louis J. Hirschman, Detroit, Mich.; Lewis H. Adler, Jr., Philadelphia.

The meeting in 1911 will be held at Los Angeles, Cal.

Undergraduate Proctology

DR. DWIGHT H. MURRAY, Syracuse, N. Y.: One of the most important duties of this society is an educational one. With the increasing appreciation and demand for this kind of special

work, the colleges should take up the subject in a manner in which its importance demands. Proctologic teaching in colleges should be done by men learned in the specialty and not by general surgeons. The time given to the specialties should be shared in a proper way with proctology, which would not detract from the importance of the older specialty but would recognize the importance of proctology. At the same time this would put the young graduate in possession of knowledge that would not only be of great value to him but of far greater value to his patients. There are certain common and important diseases in every specialty that the young physician is sure to meet and ought to be able to recognize.

Malformations of the Anus and Rectum

DR. ALOIS B. GRAHAM, Indianapolis: Congenital malformations demand prompt surgical treatment. Many cases are never reported and the percentage is evidently much larger than statistics indicate. These malformations are sufficiently uncommon and interesting to warrant placing every case on record. I wish to report four cases. 1. No trace of anus or rectum. Colostomy suggested but refused. Child died four days later. Autopsy refused. 2. Complete obstruction of the anus by a membranous diaphragm, which was perforated by the attending physician. Examination revealed a dense stricture, almost impermeable, involving the entire anal canal. The interesting point was the presence of a hypospadias through which feces had escaped for two years. The communication between the rectum and urethra was the result of ulcerations above the stricture rather than defective embryologic development. Surgical treatment was refused. 3. A well-formed anus and a protruding or bulging imperforate rectum. Posteriorly, the rectum had no attachments, and the finger could be introduced easily behind the bulging imperforate gut, through the anal canal, into a blind pouch. A fistulous opening was found in the vagina just behind the hymen. The meconium and a small quantity of feces had escaped through this opening. The protruding rectal musoca was dissected from its attachments and excised. The rectal mucosa was then sutured to the free skin at the anal margin, except for one-eighth of an inch posteriorly. This was used for drainage in case the blind pouch became infected. This patient made a good recovery. 4. Imperforate urethra and no trace of anus. Penis and scrotum were well developed, but neither testicle could be palpated. Careful dissection and exploration failed to find any trace of a rectum. At autopsy no bladder was found. While the local examination revealed a male child, with the exception of being able to palpate the testicles, the examination of the specimen removed at autopsy reveals marked evidence of the female generative organs. This child was a transverse hermaphrodite—namely, one in whom the external genitals seem to be of one sex and the internal of the other. Report of examination of specimen states that the pouch-like termination of the intestine is formed of three organs, namely, the bladder, uterus and rectum.

Atony of the Rectum

DR. WILLIAM M. BEACH, Pittsburg, Pa.: Factors contributing to atony are (a) traumatism to the perineal body; (b) disease in the anal canal; (c) enteroptosis secondary to general systemic conditions or local anatomic anomalies; (d) the abuse of injections and drastic catharsis; (e) disease in adjacent organs, as prolapsed uterus, adhesions, neoplasms, appendicitis, prostatitis, circulatory disturbance as engorged portal vessels and primary gastric diseases; (f) atony may be the sequel to lues or senility. The treatment is that of constipation, being guided by the cause. Alterative, dietetic and mechanical agencies are to be invoked.

Villous Tumor of the Rectum

DR. T. CHITTENDEN HILL, Boston: The chief point of interest about these tumors is that a certain percentage of them show a marked tendency to undergo malignant degeneration. I believe that if there is a distinct pedicle without infiltration of the adjacent mucous membrane, tumors of this type are generally benign and if completely removed by ligation, or otherwise, there is but little likelihood of their recurring. On the other hand, if the base is broad, whether there be induration or not, a total extirpation of the rectum should be advised.

Another point of some interest borne out by a study of reported cases is that the longer the condition has existed the less likely is it that the growth will prove malignant. In a case operated on by me over three years have elapsed since the operation and as yet there is no sign of recurrence.

Significance of Rectal Hemorrhage

DR. LOUIS J. KROUSE, Cincinnati: Rectal hemorrhage must not be considered conclusive of the existence of piles. Many other diseases besides piles are accompanied with bleeding. Every patient is entitled to a thorough examination, and physicians are in duty bound to use all the means at their command to accomplish it. Earlier recognition of malignancy would add materially to the future welfare of the patient which can be obtained by surgical measures, and it therefore behooves the general practitioner to be on his guard and examine carefully every case of bleeding so as to detect malignancy in its incipient stage.

Ano-Rectal Affections of Infancy and Childhood

DR. A. J. ZOBEL, San Francisco: From the first hour after birth the ano-rectal region is of vast importance. At that time malformations may be determined and proper relief promptly afforded. Some of these abnormalities pass unnoticed throughout a long life but others are the source of great discomfort and distress. While hemorrhoids are common in adults the possibility of their presence in the young is rarely considered. Malignant growths of the rectum while rare are occasionally met with. Benign growths are more common. Adenoma is the most frequent of these. They are often diagnosed as internal hemorrhoids, and like them, may become strangulated. Fissure of the anus is present more often than it is usually diagnosed. Pruritus ani is a very frequent source of great discomfort and torment to the little ones. It is very rarely suspected or diagnosed and it accounts for much of that peevishness in these little ones for which no cause can usually be assigned. I have found superficial lesions of the anal mucous membrane in these cases, and the symptoms disappeared when local treatment was instituted. Fistulo-in-ano is met with occasionally in children and even in nurslings. While it may be tuberculous it may also be of a congenital nature. Ischio-rectal abscesses are met with even in early infancy. When incised they rarely end in fistulæ. Prolapse of the mucous membrane of the anus and rectum is a common condition during the second and third years of life.

The Tuberculin Reaction in Cases of Perirectal Infection

DR. COLLIER F. MARTIN, Philadelphia: I was so impressed with the frequent coincidence of pulmonary tuberculosis and perirectal infections that I began a series of tests and examinations to determine their relation. I used the Moro tuberculin reaction, combined with physical and bacteriologic examination. In 36 cases I got the following results: Group 1. Rectal pyogenic infections, including here fistulæ, abscesses, and deep rectal ulcerations. There were 20 positive reactions out of 21 cases. The negative case was one profoundly tuberculous. Group 2. Non-pyogenic rectal cases. There were 11 cases, including hemorrhoids, fissure, and catarrhal proctitis, with three positive tuberculin reactions. This he holds, is probably the ratio of tuberculosis in this class of cases. One negative case in this group was intensely tubercular, with extensive lung lesions evident, and with abundant tubercle bacilli in the sputum.

A Unique Case of Laceration of the Sphincter Ani

DR. A. B. COOKE, Nashville, Tenn.: Feb. 26, 1910, a boy, seven years old, gave the following history: About noon on the day named the boy, who lived on a farm, went out behind the corn-crib to attend to a call of Nature. While engaged in the act, a pet dog, a hound of middle size, came up from the rear and mounting him affected entrance into

the anus and became accoupled. The boy's outcries quickly brought his mother on the scene. The dog had reversed his position and was in the same relation to the boy as is ordinarily assumed in the natural act with a bitch. The mother's excitement was naturally marked and in her frantic efforts to disentangle the two she used considerable violence and finally succeeded in separating the dog. Traction on the anus showed that several internal lacerations of considerable extent were present. Under general anesthesia the deepest of these was found to be in the middle line posteriorly, extending from a point two inches up the rectum through the sphincter muscles, and out on the skin surface for a distance of approximately one inch. The external sphincter was torn in two places at this site, one tear being complete, and the other partial. Anteriorly there was a second laceration, into but not through the fibers of the sphincter. In addition there was a number of minor tears in the anal margin involving the superficial tissue only. Fourteen interrupted cat-gut sutures were used in repairing the posterior laceration, and four in the anterior one. The others did not require suturing. The result was entirely satisfactory. Union was prompt and complete and the patient returned home in two weeks with perfect sphincter control.

Incontinence Following Rectal Operations

DR. GEORGE B. EVANS, Dayton, Ohio: Evidently the only true sphincter ani is the external—the internal sphincter ani is not subject to volition—and its sphincteric influence must be largely due to the support afforded it by the practically amalgamated muscles which form the floor of the pelvis and whose main function is the support of the hollow viscera of the pelvic cavity. Would it, therefore, be illogical, to believe that the internal sphincter is not, neither can it be made by any surgical procedure an efficient voluntary constrictor? Certainly, it is true that efficient and satisfactory sphincteric function is dependent on normal support of the bowel by a normal muscular floor, with a normal interdependent power of sphincter muscles, hence any trauma which interferes with muscular function disables proportionately to the extent of the injury. That incontinence does follow division of the external sphincter, that incontinence does follow division of the internal sphincter, is not denied and when their division becomes a necessity the best way, if there is one, of making the incision should be chosen. Considering the anatomic conformation of the perineum, the mutual dependence of perfect function, I would admonish those engaged in rectal surgery to not forget that indifferent and multiple injuries (even surgical injuries) should not be indulged in, for fear of a result that would prove more painful and unendurable than the condition which indicated operative interference. I believe that incontinence can be obviated by relieving the tension of the fibers of the levator ani muscle at their attachment to the external sphincter, or both the external and the internal sphincter by nicking the fibers of said muscles on either side of the fistulous tract, and thus permitting an incision of the muscle at right angles to the same.

Ulceration of the Rectum in Pregnant Women and the Part It Plays As a Factor in Abortions

DR. LEON STRAUS, St. Louis: I have operated twenty-four times for the result of irritable ulcer of the rectum in pregnant women. Not all of these operations were made to prevent abortion. In fact only fourteen had had one or more abortions. That leaves ten for which the operation was made to relieve the distressing pain from which these patients suffer.

Case of Post-Operative Delirium

DR. SAMUEL T. EARLE, Baltimore: The minor character of the operation preceding the attack in the present case makes it more interesting, which is doubtless accounted for by the age of the patient. A. T., aged 78, had suffered with hemorrhoids since before the Civil War, but had persistently determined not to be operated on. Early in May, 1910, they became thrombosed and inflamed, at which time he consented to an operation. The usual hypodermic of 1/6 of a grain of morphin, atropine 1/120, and strychnin sulphate 1/30, was administered prior to the anesthetic. Fearing the effect of ether or chloroform, on account of his age, it was decided to administer a mixture of nitrous oxid gas and oxygen. This mixture did not keep him thoroughly anesthetized, consequently the operation was not completed as quickly as usual and as a result there was more blood lost, which did not exceed two or three ounces. The operation was completed, he regained consciousness in a few minutes but almost immediately became very excited and delirious. Thinking this might be due to pain, 1/4 of a grain of morphin was given at the end of two hours from the time he received the first hypodermic; a third dose was given three hours following the second dose. The patient continued very delirious during the night and for three days following. The second and third nights we were able to quiet him for a few hours by hyocin hydrobromid, grain 1/50, and morphin, grain 1/6, administered hypodermically. For the remainder of the first week, the hyocin hydrobromid, grain 1/50, was sufficient to give him a quiet night, but the delirium continued for one week from the time of the operation, but not nearly so active as during the first few days and with some lucid intervals. His temperature did not exceed 99.5 F. the first three days but on the fourth day it reached 100.5 and again on the seventh day, for a short time without any apparent cause, otherwise the patient made an excellent recovery, and was able to be about the house in about ten days after the operation.

Appendicostomy: A Consideration of the Preservation of the Blood-Supply of the Appendix in the Technic of the Operation

DR. FRANK C. YEOMANS, New York City: The method here advocated and in practice found successful preserves the arteries intact and consequently the vitality of the entire appendix. It is accomplished by separating the two layers of the mesentery at its juncture with the posterior mural peritoneum, beginning at its free border, and carefully displacing the cellular tissue with its contained appendicular artery and branches, as far as necessary toward the appendix. The two layers of peritoneum are then divided transversely to the base of the appendix, turned in and sewed, to obliterate the raw space on the posterior abdominal wall. Experience teaches that it is unnecessary to test the patency of the appendix, until the wound has healed, i. e., in 4 or 5 days. Further precautions are not to obliterate any arteries by forceps, ligatures, sutures, torsion or tension in fixing the appendix in a position where it does not rest naturally, or by closing the wound too snugly about it.

By following this technic, the operation is without mortality and post-operative leakage of feces and hernia—the two troublesome sequelæ of appendicostomy, are avoided. Appendicostomy should continue to grow in favor over cecostomy in all cases where prolonged irrigation of the colon is indicated.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

July 16

1 *Throat Symptoms in General Diseases. H. L. Swain, New Haven, Conn.
2 Surgical Aspects of Gastric Ulcer. P. Syms, New York.
3 *Torsion of the Eyeball. D. K. Shute, Washington, D. C.
4 Molluscum Fibrosum, Addison's Disease, and Pulmonary Tuberculosis. I. N. Kahn, New York.
5 Anesthesia of the External Auditory Canal and of the Membrana Tympani with Ethyl Chlorid Spray. C. J. Kœnig, Paris, France.
6 Tuberculosis of the Larynx. H. Parrish, Philadelphia.
7 The Value of Test Meals. J. R. Verbrycke, Washington, D. C.
8 Twelve "Don'ts" in the Diagnosis and Treatment of Appendicitis. M. Chideckel, Baltimore, Md.

1. Throat Symptoms in General Diseases.—In this paper Swain limits himself almost entirely to the discussion of the throat symptoms of syphilis. Speaking of the treatment, he says that if it is sure the lesion is syphilitic, the bichlorid

solutions may be used; 1 to 200 or 1 to 250, being caustic to mucous membranes, can be applied and will cause the ulcer to heal up with rapidity, especially if one is giving the proper treatment internally. By chance he once applied a 10 per cent. zinc chlorid solution to a Vincent's ulceration and it healed up so promptly that he has used it ever since, to the exclusion of other remedies. He generally cleans the ulceration out with full strength peroxid and then applies the 10 per cent. solution of zinc chlorid very thoroughly to every accessible spot. The patient, of course, is made to gargle weak peroxid solutions, following it with one or another form of alkaline gargle. Nothing seems so good for canker sores as pure stick of silver nitrate. For shrinking up the gums or the relaxed mucous membranes which follow the healing of ulcerations, old-fashioned tincture of myrrh still holds a strong place in Swain's affections. Glycerite of tannin helps many a stomatitis in its final healing. For a bland application to irritated areas not ulcerated a solution of boroglycerid deserves confidence. Concerning the care of gross syphilitic defects as they appear in the hard and soft palate, it must, of course, be a cardinal rule to get the greatest possible effect from the antisyphilitic medication in the shortest time possible, so as to limit defects. In the case of bone death, let the dead be separated from the living by natural processes, for surgery generally botches the job and rarely hurries the final healing. Caustics rarely do good and often do harm to tertiary lesions. In the case of the pharynx and palate too great care cannot be used to prevent the inevitable contraction of scar tissue with obliteration more or less complete of the opening down into the nasopharynx and below into the esophagus.

3. **Torsion of the Eyeball.**—Shute says that three very distinct and separate portions of the cornea are to be noted, viz.: (1) The apex of the cornea; (2) the horizontal meridian of the cornea and its outer or temporal extremity; and (3) the vertical meridian of the cornea and its upper extremity as observed in the primary position of the eyes. The position of the apex of the cornea at the end of a version of the eye is ascertained in reference to rotations around two fixed lines in Listing's plane—a vertical and horizontal axis. Rotations about the vertical and transverse axes in this plane can be compounded into rotations about any intermediate axis. The amount and character of the deviation of the apex of the cornea are noted in reference to the point of intersection of the fixed vertical and horizontal lines in Listing's plane; in other words, in reference to the location of the apex of the cornea in the primary position of the eye.

The amount and character of the virtual torsion of the eye are ascertained by noting the tilt, one way or the other, of the upper end of the vertical plane through the whole length of the line of fixation, and by regarding the eye along the line of fixation and not by regarding the eye along a fixed anteroposterior axis perpendicular to Listing's plane. Further, we must rigidly distinguish between actual rotations or versions around axes in Listing's plane, and virtual rotations or torsions around the line of fixation of the eye.

Boston Medical and Surgical Journal

July 14

9 *The Occurrence of Infantile Paralysis in Massachusetts in 1909. R. W. Lovett, Boston.
10 Bilious Attacks in Children. P. S. Potter, North Adams, Mass.
11 Etiology of Common Colds. A. Coolidge, Boston.

9. **Infantile Paralysis in Massachusetts.**—This is a most exhaustive study of infantile paralysis and for full details the original article by Lovett should be consulted. There are 354 cities and towns in Massachusetts, in 136 of which there occurred cases of infantile paralysis in 1909. The incidence ran from 526 per 100,000 inhabitants to 15 in 100,000. In 1909 the disease was relatively much more prevalent in small towns than in the cities and larger towns.

The last six years have been very dry. In 1907 there was practically a normal rainfall, and 234 cases in the state. In 1908, a very dry year with 7 inches deficiency of rainfall, there were few cases—136. In 1909, with more rain (3 inches deficiency) there were 923 cases. In Massachusetts the prevalence of the disease by the year has not, therefore, been coincident with deficiency of rainfall.

The 150 cases of paralysis carefully studied occurred in 142 families. The total number of children under 15 in these 142 families was 479. The total number of children sick from any cause in these families contemporaneously with the occurrence of paralysis was 187, and 12 adults. Of the 187 sick children, 149 were paralyzed; of the 12 adults, 1 was paralayzed. This leaves 49 cases of contemporaneous illness not followed by paralysis which are to be reckoned as possible abortive cases of the disease. Analyzing the age of infected houses, it is evident that most of the 150 cases occurred in old houses. Yet the majority of houses in a city are old. But in Dorchester, where many cases were investigated, building is active and many of the houses are new. It seemed as if the average age of infected houses was probably higher than that of the houses of those districts taken as a whole. The disease in many respects suggests that it is insect-borne. Among 142 families, 134 had vermin, etc. The occurrence of paralysis among domestic animals and fowls has been found to coincide with outbreaks of the disease in the human beings in some instances reported. In 34 out of 87 families having domestic animals, sickness, paralysis, or death occurred in these animals about the time of the paralysis in human beings.

The relation of the disease to rabies was investigated and in three of the towns carefully studied epidemics had occurred in the past, but no outbreak of rabies in 1909 had any relation to these 150 cases of paralysis, and no one of the 150 paralyzed children had in the past received the Pasteur treatment. With regard to evidence of communicability, instances of direct contagion from child to child occurred with an incubation period of 1 to 14 days. In 11 instances in the 150 cases the disease followed intimate contact with persons with old infantile paralysis, often of many years' standing. Instances of what would appear to have been contagion occurred in 35 out of 150 cases. Forty-five institutions were investigated where 3,600 young children lived. Only one child of the 3,600 developed the disease and this was under remarkable conditions. Out of 150 patients, 62 were swimming or wading just before onset. No child living on breast milk alone of the 150 carefully studied, was affected by the disease. Possible favoring conditions preceding or attending infection were, insect bites or stings, 35; wounds, 13; sore throat, 42; diarrhea, 35; otitis media, 2; coryza, 4; measles, 1; pin worm, 1; bronchitis, 1. Ninety-three had one or more of the above possible sources of infection; and 57 had no such history. Three hundred and sixty-three males and 263 females were affected. Only 7 per cent. of the cases occurred in the first year of life, but 71 per cent. occurred in the first 5 years and 87 per cent. in the first ten years.

In 147 cases the early symptoms were fever, 132; pain, 110; tenderness, 108; vomiting, 67; constipation, 72; retraction of head, 60; diarrhea, 38; headache, 33; delirium, 15; anorexia, 15; irritability, 24; stupor and restlessness, 14; malaria, 9; nausea, 18; convulsions, 4; twitchings, 3; cough, 8; dyspnea, 4; sore throat, 8; numbness, 3; chills, 2; weakness, 1; coma, 2; abdominal distention, 7; pain in abdomen, 1; jaundice, 1; vertigo, 2; double vision, 2; difficulty or inability to swallow, 4; difficulty in articulation, 2; gastro-intestinal upset, 2; diaphragmatic breathing, 1; coryza, 1.

Six patients had skin eruptions; 1, measles and mumps; 1, whooping cough; 1, malaria.

Distribution of paralysis was as follows: One leg only, 192; both legs only, 151; one arm only, 32; both arms only, 11; one arm and leg, same side, 57; one arm and leg, opposite sides, 17; both legs and one arm, 38; both arms and one leg, 6; both arms and both legs, 82; not stated, 12; back, 83; abdomen, 37; face, 8; right face, 16; left face, 10.

What appears to be recovery in the eyes of the family physician occurs more frequently than is generally supposed, 10 per cent. of such cases being reported. This led to a closer investigation of the recoveries in 150 cases. Twenty-five of these had wholly recovered. The character of the onset was mild in 6, moderate in 17 and severe in 2. Pain and tenderness in the acute attack existed in 19 out of 25 recovered cases.

The statement may therefore be made that in the whole group of 628 cases, 10.8 per cent. of the patients were reported as

wholly recovered; that in the smaller group of 150 cases, 16.7 per cent. of the patients are known to have recovered, and that a study of character of onset, distribution and tenderness in these cases gives no means of distinguishing them from other cases at the time of the attack.

Medical Record, New York

July 16

12 The Psychoneuroses: An Interpretation. J. Collins, New York.
13 *Duodenal Alimentation. M. Einhorn, New York.
14 Diagnosis of Suppurative Diseases of the Nasal Accessory Sinuses. A. Braun, New York.
15 Drainage and Dressing of Wounds in Minor Surgery. A. E. Isaacs, New York.
16 *Fistula in Ano: Excision and Suture. E. C. Beck, New York.
17 A Pith-ball Manometer. N. Fedde, New York.

13. **Duodenal Alimentation.**—Einhorn cites three examples of successful feeding of patients who were unable to take nourishment on account of vomiting, by means of the duodenal tube and pump. Milk and eggs were the main food materials forced through the very small tube. None of the three patients fed by him lost appreciable weight, they felt well, and the feeling of hunger was satisfied, while without food they felt tired and weak.

16. **Fistula in Ano.**—To the usual splitting open of the fistula Beck adds the dissection of the scar tissue that has formed along the track of the fistula, and which prevents healing. The wound is then carefully sutured in its entirety, and the bowels kept from moving for four days.

Lancet-Clinic, Cincinnati

July 9

18 The Use of Quinin and Urea Hydrochlorid as a Local Anesthetic in Ano-rectal Surgery. L. J. Hirschmann, Detroit.
19 The Indications for and Usefulness of Some Diagnostic Methods for Diseases of the Digestive System. J. H. Schroeder, Cincinnati.
20 Goiter. W. D. Hamilton, Columbus, Ohio.

Pennsylvania Medical Journal, Athens

June

21 *History of the Progress Made in the Control of Communicable Diseases. A. B. Moulton, Camp Hill.
22 *The Rôle of Microzoa in the Causation and Transmission of Disease. J. McFarland, Philadelphia.
23 *Some Etiologic Factors in Scarlet Fever. J. F. Schamberg, Philadelphia.
24 Preventive Measures When Disease is Due to Drinking Water. M. V. Ball, Warren.
25 *Preventive Measures When the Disease is Transmitted by Food Supplies. M. B. Ahlborn, Wilkes-Barre.
26 *Preventive Measures Against Infectious Diseases. A. J. Smith, Philadelphia.
27 *What Shall we do About Trachoma? C. P. Franklin, Philadelphia.
28 *Isolation and Quarantine in Management of Communicable Diseases. W. M. Welch, Philadelphia.
29 Disinfection. J. J. Quiney, Easton.
30 Vocal Gymnastics: The Field of Their Usefulness. W. B. Weidler, New York.
31 Brain Abscess: Operation. B. M. Dickinson and T. Diller, Pittsburg.
32 The Principles of Anesthesia. E. B. Smith, Philadelphia.

21. Abstracted in THE JOURNAL, Oct. 16, 1909, p. 1323.

22, 23, 25, 26, 27, 28. Abstracted in THE JOURNAL, Oct. 23, 1909, pp. 1423, 1424.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

July

33 *Uterine and Vesical Prolapse. C. Jewett, Brooklyn.
34 *Uterine and Bladder Prolapse. J. M. Baldy, Philadelphia.
35 *Genital Prolapse: Its Operative Correction Based on a New Study of Cleavage Lines and Sliding Segments. R. L. Dickinson, Brooklyn.
36 Intramural Sequestration and Fixation of the Corpus and Fundus Uteri for the Cure of Procidentia Uteri Existing in Women with Whom Further Pregnancy is not Possible. P. A. Harris, Paterson, N. J.
37 Contributions to Medical and Surgical Literature by George Granville Bantock, M.D., Formerly Surgeon to the Samaritan Free Hospital, London, England. I. S. Stone, Washington, D. C.
38 Varicocele in the Female. O. Hofmann, Kansas City, Mo.
39 *Heart Diseases in Pregnancy and the Puerperium. J. F. Moran, Washington, D. C.
40 Friedreich's Ataxia. E. L. Hunt, New York.
41 The Exceptionally Bright Child. M. P. E. Groszmann, Plainfield, N. J.
42 Differences Between Anatomic, Physiologic, Psychologic and Chronologic Age as Causes of Derailment. C. W. Crampton, New York.
43 Ethnic Factors in Education. M. Fishberg, New York.
44 Congenital Hypertrophic Pyloric Stenosis. G. L. Kaufmann, Chicago.
45 Treatment of Cervical Tuberculous Adenitis at the Sea Breeze Hospital. L. W. Ely, New York.

33. **Uterine and Vesical Prolapse.**—Jewett holds that practically all operable cases may be grouped in three principal classes: 1, uncomplicated uterine or vesical prolapse; 2, extreme prolapse of uterus and bladder; 3, cases between these extremes. Simple cystocele may be treated by any procedure which contemplates a firm reattachment of the lower end of the anterior vaginal wall to the fibrous structures at the posterior face of the pubic bones on either side of the urethra, supplemented by a close perineoplasty and a resection, if needed, of the redundant fascia. These principles are embodied in the Hirst operation. Satisfactory perineal support is assured only by one of the various procedures which overcome the diastasis of the levators, essentially the pubo-coccygei, good examples of which are Goffe's, Barrett's and the Holden operation. Beginning descensus of the uterus may be corrected by a close and high colpoperineorrhaphy, together with one of the round ligament operations. In more marked descensus, amputation of the cervix should be added. Shortening the uterosacral ligaments, though sound in theory, is difficult work and the results are not in all cases wholly satisfactory. The operation of White may serve in moderate visceral prolapse.

An operation formerly practiced by Watkins is not wholly unlike that of White. In extensive prolapse of the uterus and bladder, hysterectomy, when practicable, offers the best results. The broad ligament stumps are securely sutured to denuded surfaces at the lateral angles at the upper end of the vagina or they are shortened, sutured firmly together, and the bladder and vaginal walls fixed to the transverse beam thus formed. In either procedure effective suspension of the vagina may be further assured by utilizing the round and the uterosacral ligaments as well. A thorough perineoplasty also is, of course, essential. With this technic his results have invariably been good.

Cases intermediate between the foregoing extremes Jewett has treated by the interposition operation. In this procedure the uterus for most of its length becomes a constituent part of the pelvic floor. The cervix is lifted toward the sacral hollow by torsion of the broad ligaments, the slack in the anterior vaginal wall is taken up in part or fully by backward traction, the lower or anterior end of the wall is drawn up by the upward pull of the fundus, and the prolapsed portion of the bladder is displaced upward over the fundus of the uterus. These ends, in Jewett's experience, have been fully attained only when the vaginal wall has been sutured to the uterus nearly or quite to the level of the round ligaments. With the technic at its best, the immediate mechanical result leaves little to be desired. The mechanics of Goffe's very definite technic amounts in effect to a vesicovaginal interposition of the uterus. Goffe's operation must be credited with the advantage that it brings about a more nearly normal relation of the pelvic viscera and a safer condition of affairs in the event of subsequent pregnancy. With the Alexandroff-Dudley operation, though ideal in principle, and with that of Reynold's, Jewett has had no very satisfactory experience; with the Freund-Fritsch technic, with Polk's recent proposal, and with cystohysteropexy, espoused by Dickinson, none at all.

34. **Uterine and Bladder Prolapse.**—Baldy emphasizes that no one procedure, or series of procedures, will answer in all cases. The injuries are multiple and the relaxations and stretching of tissues varied, and the successful operator will be he who, having first appreciated all the underlying causes and difficulties, will not try to return the parts to their original minute anatomic positions, but will do away with hair-splitting and adapt himself to the conditions as they face him in each case and will work for a result no matter what the technical criticism of the steps may be. Nature is a great adaptor, and if we will get the organs in their relatively proper positions and hold them there, it matters little whether there are a few folds more or less in the bladder, whether the bladder is a bit encroached on, whether certain ligaments are put

out of business, whether there be a true fascia in the vaginal vault or not. Nature will soon get used to the changed condition, and all rough edges which have not been too nicely trimmed up (with consequent unnecessary prolongation of operation), all irritability of the bladder, all faulty ligaments will be found subsequently to be a thing of the past and the patient enjoying good health and comfort.

35. **Genital Prolapse.**—From the point of view either of pathologic anatomy or surgery the frozen sections showed Dickinson the importance of recognizing certain cleavage planes in the pelvic diaphragm, and intervening segments that slide. The cleavage runs 1, postpubic close to the bones; 2, in the urethrovaginal septum; 3, in the rectovaginal septum; and 4, along the anorectal canal. If the urethral segment falls any considerable distance, only ventral fixation at the rear or top of the pubes will hold the upper urethra and anterior bladder-wall. The second segment (vagina bladder-base, cervix) is the common hernial mass. A convenient nomenclature would be intravaginal cystocele, protruding beyond the hymen on straining, and complete extrusion, bladder, cervix, uterus, one or all. For the worst cases, the writer employs ventral fixation of the bladder, whether vaginal hysterectomy is done or not. The retroanal segment, when very badly prolapsed, particularly in the presence of protrusion of the uterorectal pouch, may call for sigmoid fixation, and the wide-open, bony outlet of the pelvis may present no tissue out of which a diaphragm can be built, so that flaps from the buttocks may be required.

39. **Heart Diseases in Pregnancy.**—Moran believes that it is quite possible that varying degree of temporary dilatation of the heart take place in pregnancy similar to that which occurs after great exertion, so that the cardiac mechanism is capable of maintaining the circulatory equilibrium without undergoing appreciable hypertrophy or increasing markedly the blood-pressure.

Normal pregnancy does not predispose to the development of inflammatory or degenerative changes in the heart muscle or endometrium, nor is the pulse rate or tension markedly altered. Systolic heart murmurs heard at times in pregnant women are not due to organic lesions, but are identical with those observed in chlorotic and anemic patients, or produced by slight compression of the heart. Anomalies in pulse-rate, as arrhythmia or tachycardia, are as a rule only nervous manifestations. Moran recently delivered two women who had inorganic heart murmurs with disturbance of rhythm; both were of very nervous temperament and anemic. He has had seven cases of heart disease complicating pregnancy and the puerperium, 5 of which were seen in consultation. One had good compensation; another fair; in four it was bad, and in one there was acute dilatation of the heart in a case of typhoid complicating the puerperium. Two of the mothers died; all of the infants lived. The infrequency of heart disease during pregnancy, like toxemia and placenta prævia, emphasizes the importance of a thorough physical examination of the patient and constant supervision during pregnancy in order that the complications may be promptly detected and such measures undertaken in the interest of the mother and infant as the exigencies of the case may determine.

Texas State Journal of Medicine, Fort Worth

June

46 The Narcotic Drug Addictions, Etiologic Factors; Reasons for Past Failures; Principles Involved in Treatment. G. T. Pettey, Memphis.
47 The Old and the New State Association. W. B. Russ, San Antonio.

Annals of Surgery, Philadelphia

June

48 The Neuropathologic Cytology of Anemia, Infections, Graves' Disease and Surgical Shock. G. W. Crile, Cleveland, Ohio.
49 *Therapy by Bacterins and Tuberculins in Mixed Suppurative Bone and Joint Disease. DeF. Willard and B. A. Thomas, Philadelphia.
50 *Etiology of Cancer Based on Clinical Statistics. I. Levin, New York.
51 *Simulation of Neoplasms by Inflammatory Processes. C. A. Hamann, Cleveland.
52 *Prognosis and Operative Treatment of Fracture of Skull. J. Ransohoff, Cincinnati.
53 *Diagnosis and Surgical Treatment of Esophageal Diverticula. C. H. Mayo, Rochester, Minn.
54 *Resection of the Pancreas. J. M. T. Finney, Baltimore.
55 *Hepaticoduodenal Anastomosis. G. E. Brewer, New York.
56 Wandering Spleen. A. MacLaren, St. Paul.
57 Separation of the Colon from its Mesentery. F. E. Bunts, Cleveland, Ohio.
58 *Congestion of the Lower Lobe of the Right Lung an Early Symptom in Appendicitis. J. B. Roberts, Philadelphia.
59 *Removal of the Rectum for Cancer. W. J. Mayo, Rochester, Minn.
60 *Choriocarcinoma. A. Primrose, Toronto.
61 Momburg's Method of Artificial Anemia by Suprapelvic Constriction. A. G. Gerster, New York.
62 Old Irreducible Dislocations of the Shoulder Joint. A. F. Jonas, Omaha.
63 Operations on the Appendix. C. A. McWilliams, New York.

July

64 Operations on the Hypophysis. F. V. Eiselsberg, Vienna, Austria.
65 Tumor of the Hypophysis (with Infantilism). S. J. Mixter and A. Quackenboss, Boston.
66 *Intratracheal Insufflation (Meltzer): Its Value in Thoracic Surgery. C. A. Elsberg, New York.
67 *First Case of Thoracotomy in a Human Being Under Anesthesia by Intratracheal Insufflation. H. Lilienthal, New York.
68 Thoracic Surgery on Human Beings. W. Meyer, New York.
69 Artificial Respiration and Intrathoracic Esophageal Surgery. N. W. Green and H. H. Janeway, New York.
70 *Cancer of the Esophagus and Cardia. H. H. Janeway and N. W. Green, New York.
71 Experimental Surgery of the Thoracic Aorta and Heart. A. Carrell, New York.
72 *Treatment of Wounds of the Heart. W. C. G. Kirchner, St. Louis.
73 *Abnormal Position of Duodenum. G. E. Armstrong, Montreal.
74 *End-to-End Intestinal Anastomosis by the Invagination Method. C. L. Gibson, New York.

49, 50, 52, 54, 55, 58, 59, 60. Abstracted in THE JOURNAL, July 9, 1910, pp. 160, 161, 162 and 163.

51. **Simulation of Neoplasms by Inflammatory Process.**—The resemblance, clinically, between certain inflammatory processes and tumor is great, and, according to Hamann, often leads to errors in diagnosis. Chronic osteomyelitis and other forms of bone disease resulting in enlargement of bones, formative osteitis, as the result of various irritants, leading to the production of swellings which simulate neoplasms; myositis ossificans, circumscribed enlargements of muscles, myositis fibrosa; inflammatory thickening around foreign bodies in abdominal wall (ligature and foreign body tumors), inflammation of the omentum after ligation of portions of it; pseudo-neoplasms of stomach; inflammatory pseudo-neoplasm of intestines; periappendicular swellings; diverticulitis, associated with the formation of connective tissue masses; tumors of the rectum and perirectal tissues of inflammatory origin are in many instances mistaken for tumors.

53, 68, 73, 74. Abstracted in THE JOURNAL, July 2, 1910, pp. 46, 47.

66. **Intratracheal Insufflation.**—The experiences Elsberg has had with intratracheal insufflation have demonstrated that the results obtained by Meltzer and Auer, by Carrel, and by himself, in animal experiments, can also be obtained in the human being, but a much larger experience is necessary before any definite statements can be made. There is every reason, however, for a thorough trial of the method. Meltzer's method of intratracheal insufflation recommends itself by its very great simplicity. If the future shows that it is as safe for the human being as it is for the animal—and Elsberg's experience seems to point in that direction—then surgery will have a very simple method for the prevention of the dangers from acute pneumothorax, a danger which has been the chief hindrance to the development of intrathoracic surgery.

67. **Anesthesia by Intratracheal Insufflation.**—The most remarkable feature of the anesthesia in this case was the total disappearance of the noisy rattling respiration which existed during the administration of the ether by the usual method. Lilienthal considers that this case was a most severe test of the Meltzer method of anesthesia, because of the foul and septic condition of the discharge from the pulmonary cavity. In spite of this there was no pneumonia, not even a bronchitis.

70. **Cancer of Esophagus and Cardia.**—This is a description of an operation for removal of such a cancer by the transthoracic route under conditions of differential pressure.

72. Abstracted in THE JOURNAL, Jan. 15, 1910, p. 232.

Journal Arkansas Medical Society, Little Rock

June

75 *The Progress of Medicine. J. H. Lenow, Little Rock.

75. Abstracted in THE JOURNAL, June 11, 1910, p. 1991.

Alabama Medical Journal, Birmingham

June

76 Educational Campaign Against Hookworm Disease. H. G. Perry, Greensboro.
77 *The Diagnosis of Obscure Cases of Appendicitis. M. Rogers, Birmingham.
78 *Chronic Gastro-mesenteric Ileus. A. L. Stavely, Washington, D. C.
79 *The Employment of the Police Power for the Promotion of Health. J. M. Foster, Montgomery, Ala.
80 Intubation in Laryngeal Diphtheria by the General Practitioner. A. M. Stovall, Jasper, Ala.

77, 78, 79. Abstracted in THE JOURNAL, May 28, 1910, pp. 1818, 1819.

American Journal of Surgery, New York

June

81 *A Modified Technic for the Combined Operation of Extirpation of the Rectum. J. P. Tuttle, New York.
82 The Treatment of Placenta Prævia, Based on the Study of Forty-two Cases. A. A. Hussey, Brooklyn.
83 *Tuberculosis of the Fallopian Tubes as an Etiologic Factor in Extrauterine Pregnancy. A. M. Taylor, San Francisco.
84 The Removal of the Tonsils. N. L. Wilson, Elizabeth, N. J.
85 The Surgical Significance of Nystagmus and Vertigo. P. Fridenberg, New York.
86 Perforation in Typhoid. F. E. DuBois, Plainfield, N. J.
87 Gastro-colic Fistula Due to Carcinoma: Operation. W. H. Axtell, Bellingham, Wash.

81. **Extirpation of the Rectum.**—Tuttle concurs in the universal opinion of surgeons that theoretically the combined operation is the operation of choice for the extirpation of the rectum in any condition requiring the removal of more than the lower four to five inches of this organ. Its hitherto high mortality, and the fact that many operators have made the artificial anus a necessary accompaniment of this operation, are the only arguments against it. As to its high mortality, this is steadily decreasing, until to-day it is less than that of the perineal operation 10 years ago.

83. **Extrauterine Pregnancy.**—Taylor's attention was first called to the importance of tubal tuberculosis as an etiologic factor by the circumstance of encountering three cases of extrauterine pregnancy within a month, each case being associated with advanced pulmonary tuberculosis. In three other cases of twin pregnancy one fetus in the tube and one in the uterus, the tubes were tuberculous. In another case in which there was a seven months' extrauterine pregnancy, the placenta extended from the upper inner third of the uterus through the ruptured right tube into the abdominal cavity and was attached to the peritoneum, omentum, bowel and liver; the uterus was enlarged to that of a four months' pregnancy. This patient was tuberculous. Altogether Taylor recalls that out of 64 cases of extrauterine pregnancy 42 were tuberculous, the pathologic condition having been confirmed in the laboratory. These clinical experiences, strengthened as they are by the inherent probability of tuberculous infiltrations being obstructive rather than destructive to normal fetal growths, force on him the conviction that in tuberculous salpingitis is found the most common cause of extrauterine pregnancy.

Illinois Medical Journal, Springfield

June

88 The Medical Profession—Present Conditions and Future Problems. J. L. Wiggins, East St. Louis, Ill.
89 Dilatation of the Stomach and Chronic Benign Ischochymia. M. Einhorn, New York.
90 Suprapubic Prostatectomy. A. D. Bevan, Chicago.
91 Diagnosis of Prostatic Lesions. L. E. Schmidt, Chicago.
92 Employers Liability Insurance. W. H. Allport, Chicago.
93 The Lymphoid Masses—The Part They Play in Infections Gaining Entrance into the Body. F. E. Auten, Belleville, Ill.
94 Auto-Vaccine in Traumatic Infections. C. R. G. Forrester, Chicago.
95 Acute Diffuse General Suppurative Peritonitis. L. Feingold, Chicago.
96 Chronic Overwork. A. Hamilton, Chicago.
97 The Responsibility of the Medical Profession. H. B. Favill, Chicago.
98 Shall the General Practitioner Use the Roentgen Rays? M. Reichmann, Chicago.

Journal of the Tennessee State Medical Association, Nashville

June

99 Discovery, Distribution, and Consequences of Hookworm Disease. C. W. Stiles, Washington, D. C.
100 Symptomatology of Hookworm Disease. L. Leroy, Memphis.
101 Pathology of Hookworm Disease. N. Evans, Nashville.
102 Hookworm Dissection with Special Reference to the Non-oviparous Female. W. Litterer, Nashville.
103 *The Clinical Significance of Silent Fluids in the Thoracic Cavity. F. A. Jones, Memphis.
104 *Symptoms and Effects of Adenoids. W. L. Simpson, Memphis.

103, 104. Abstracted in THE JOURNAL, April 30, pp. 1465, 1466.

Interstate Medical Journal, St. Louis

July

105 The Diagnosis of Mitral Stenosis. J. M. Patton, Chicago.
106 The Poisonous Scorpion, Including a Review of Some Recent Literature and Personal Experiences. H. V. Jackson, Durango, Mex.
107 *Etiology of Epidermidolysis Bullosa. M. F. Engman and W. H. Mook, St. Louis.
108 Hyperesthesia Rhinitis (Hay-Fever). O. J. Stein, Chicago.
109 Diagnosis and Pathologic Findings in an Unusual Case of Epithelioma of the Larynx. D. B. Delaven, New York.
110 Gonorrheal Vulvo-Vaginitis: Its Specific Treatment and Prophylaxis. W. J. Butler, Chicago.
111 *Differential Points in the Character of the Bone Lesion in the Tuberculous, and Acute Osteomyelitis, Rachitis and Syphilis. A. E. Horwitz, St. Louis.

107. **Epidermidolysis Bullosa.**—Having found the elastic tissue absent in 5 patients suffering from epidermidolysis bullosa, sections from all presenting practically the same histologic picture, Engmann and Mook feel justified in asserting this absence to be the etiologic factor of the disease.

111. **Bone Lesions.**—Horwitz found that in acute osteomyelitis the cortex is thickened and irregular, the periosteum is raised and new bone of lesser density is deposited underneath it. In congenital syphilis, new bone of increased density is symmetrically deposited on both sides of the shaft. In acquired syphilis, this new dense bone is irregular and "furred." Abscess in osteomyelitis is found in the medulla; in syphilis within the cortex, the medulla not being involved. In osteomyelitis, the joints are very rarely involved, the same condition existing in acquired syphilis. In congenital syphilis, on the contrary, joint involvement is the rule. Syphilis shows thickening on both sides of the cortex, rickets on the concavity of a bowed limb only, and with no increase in the diameter of the shaft. In syphilitic spina ventosa a periostitis with dense bone deposit is seen; in the tuberculous form the medulla and cortex are merged into one mass of soft bone. In all forms of syphilis the original outline of the bone is retained and clearly seen within the new formation; in rickets the shaft is distorted; in osteomyelitis there is a disturbance in all the layers of the shaft; in tuberculosis a merging of the cortex and medulla. Syphilitic epiphyseal enlargement is bilateral. In rickets the epiphysis is enlarged, the end of the diaphysis is widened and cup-shaped for the reception of the epiphysis, and the bone is of diminished density. In tuberculosis the epiphysis is squared and a rarified area surrounds the focus, which is of indefinite outline; in osteomyelitis the focus, clearly outlined, is surrounded by a dense eburnated area.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

June

112 *Progress of Therapeutics. J. C. Wilson, Philadelphia.
113 *Treatment of Pneumonia. A. McPhedran, Toronto.
114 *Malarial Infections in the Canal Zone and Their Treatment. F. M. Shook, Washington, D. C.
115 Pathology and Diagnosis of Psychoneurosis (concluded). B. Sidis, Portsmouth, N. H.

112, 113, 114. Abstracted in THE JOURNAL, May 28, 1910, pp. 1809, 1810.

Woman's Medical Journal

June

116 Chemical Tendencies of Adolescence in Girls. M. S. Macy, New York.
117 Epidemic of Acute Anterior Poliomyelitis in Wisconsin, Summer of 1908. J. Manning, Eau Claire, Wis.
118 Hookworm, Malaria, Yellow Fever, and Their Relation to the Health of American Citizens. J. Van R. Hoff, U. S. Army.
119 The Hypodermic Seawater Treatment of Disease. J. W. Carpenter, Cincinnati.

Bulletin Johns Hopkins Hospital, Baltimore

July

120 *Multiple Subcutaneous Hemangio-Endothelioma, Multiple Lymphangio-Endothelioma of the Intestinal Tract and Multiple Polypi of the Stomach Undergoing Malignant Changes. M. C. Winternitz and T. R. Boggs, Baltimore.
121 Recent Advances in our Knowledge of Tropical Diseases. J. L. Todd, Montreal.
122 Anaphylaxis and its Relation to Clinical Medicine. J. F. Anderson, U. S. P. H. and M.-H. S.
123 *Unusual Case of Cerebral Tuberculosis Following Tuberculous Otitis Media. H. O. Reik, Baltimore.
124 *Etiology of Chronic Arthritis. H. W. Marshall, Boston.

120. **Hemangio-Endothelioma; Lymphangio-Endothelioma and Multiple Gastric Polypi.**—The case reported by Winternitz and Boggs presents many unique features and is of interest, not only as a remarkable example of multiple heterologous tumor formation, but also as a basis for some generalizations on the origin of tumors. Each of the three groups of tumors, present in this one case, is unique in the extent and character of its occurrence, and that all three should have occurred in one individual is remarkable. The patient was an old man, with a marked alcoholic history, extreme generalized sclerosis of arteries, veins and parenchymatous tissues. In the blood-vascular system was found an extreme grade of sclerosis affecting the aorta and larger arteries throughout the body, and a very marked phlebo-sclerosis, as well. In the subcutaneous tissue this sclerosis resulted in obliteration of much of the stream bed and a compensatory formation of new vessels. These new blood-vessels are formed by the proliferation of the endothelium, as in granulation tissue. But in many places the endothelium loses its power of organization with a resultant exuberance of endothelial growth into cavernous angiomata. By a still further loss of this organizing force, the vegetative function of the cell predominates and we have the formation of solid endothelial tumors. The solid tumors may in turn give rise to metastases.

In considering the proliferation of the lymphatic endothelium in the intestine, it is suggested that the extreme portal obstruction associated with the cirrhosis of the liver and the proliferative peritonitis and ascites may play a part somewhat analogous. It is further suggested that portal obstruction leads to overloading of the lymph channels and that, in the attempt to compensate for the extra load, proliferation and new formation of lymph channels may take place. Here again a loss of organization may lead to the development of cavernous angiomata and of solid endothelial tumors.

The authors suggest a sequence here somewhat as follows: Cell destruction as a result of chronic alcoholism; chronic gastritis as a protective effort on the part of tissue; regeneration in excess with polypus formation; and lastly, as a result of loss of organization, lawless growth with the production of adenoma and carcinoma, at many points simultaneously.

123. **Cerebral Tuberculosis Following Tuberculous Otitis Media.**—From the history and examination in Reik's case, it was apparent that it was a case of chronic suppurative otitis media, possibly of tuberculous origin, which had certainly invaded the mastoid and probably the intracranial structures. Fever, profuse discharge of pus, fistula in the external auditory canal and partial facial paralysis did not necessarily mean anything more than mastoiditis. Convulsions and a paretic condition of the left side were difficult to explain; the first might be due to a general septic condition accompanying mastoiditis, or to an extradural collection of pus; the increased intracranial pressure produced by the latter lesion might explain the existence of both the convulsions and the paresis. Leptomeningitis was ruled out by the normal condition of the spinal fluid. A cerebral abscess was considered possible, but there were no strong supporting symptoms; only once, at the time of admission, had the temperature been below normal, and that was readily accounted for otherwise; a differential blood count did not indicate it; there were no localizing symptoms; the muscular impairment of the left side suggested a cerebral lesion on the side of the brain opposite to the affected ear. The only possible conclusion then seemed to be to perform a mastoidectomy and explore the base of the brain through this wound.

The operation was performed and proved very interesting. When the soft tissues were retracted it was found that Nature had done a fairly complete exenteration of the mastoid, and that, in addition, there was a large sequestrum of the squamous portion of the temporal bone; the postero-superior bony wall of the canal and the superficial cortex of the mastoid, down nearly to the tip, had necrosed and were represented by a mass of dead tissue only; the sequestrum included the temporal ridge and the squama from above and measured 20 mm. square. Between this and the dura was a considerable collection of pus. It was then a case of mastoiditis with extensive bone destruction and an extradural abscess, the margins of the abscessed areas being completely walled off by inflammatory adhesion of the dura to healthy bone. The immediate result of the operation was satisfactory. The general condition gradually became worse and the patient died six months later. An autopsy was performed. The left hemisphere presented a large abscess cavity involving almost the entire temporo-sphenoidal lobe. Cutting into the brain substance through the diseased-looking spots on the external surface exposed large areas of tuberculous caseation that involved the greater portion of the temporal and parietal lobes. It would seem probable that this was originally a case of tuberculous otitis media and that the mastoid disease and the cerebral abscess were direct sequelæ of this infection.

124. This article will be abstracted in the Department of Therapeutics.

Bulletin American Academy of Medicine, Easton, Pa.

June

125 *Principles of Medical Education. G. H. Hoxie, Kansas City, Mo.
126 The Influence of Race on Infant Mortality. R. C. Cabot and E. K. Richie, Boston.
127 A Plan for the Reduction of Infant Mortality. R. W. Bruere, New York.
128 Educational Responsibilities of a Milk Depot. I. S. Wile, New York.
129 The Responsibilities of General Relief Agencies in the Prevention of Infant Mortality. S. C. Kingsley, Chicago.
130 Philanthropic Experiments in Increasing and Decreasing Infant Mortality. W. Hutchinson, New York.

125. Abstracted in THE JOURNAL, April 2, 1910, p. 1158.

Northwest Medicine, Seattle

June

131 Fractures of the Skull. W. House, Portland.
132 Idem. Points in Diagnosis and Indications for Surgical Treatment. E. O. Jones, Seattle.
133 Medical Organization. P. W. Willis, Seattle.
134 The School Child and the Future Neurasthenic. E. J. Labbe, Portland.
135 Difficulties Occasionally Met in Diagnosis of Pneumonia. C. W. Shaff, Lewiston, Ida.
136 The Place of Electricity in Medicine. F. M. Taylor, Portland, Ore.
137 Tonsillotomy and Tonsillectomy. J. A. M. Hemmeon, Seattle, Wash.
138 Vasomotor Trophic Neurosis. C. W. Sharples, Seattle.

Old Dominion Journal of Medicine and Surgery, Richmond

June

139 *Suggestions for a Better Organization. V. V. Anderson, Lynchburg, Va.
140 Paracelsus. P. S. Roy, Washington, D. C.
141 Ptomain Poisoning Complicated by Metallic Elements. L. B. Wiggs, Richmond.
142 Four Cases of Pellagra. W. F. Lockwood, Baltimore.
143 Lamblia Intestinalis. W. Allen, Charlotte, N. C.

139. **Suggestions for Better Organization.**—The financial side of medicine is reviewed by Anderson, and he emphasizes the fact that physicians must unite to enlighten the public on the danger of ignorant, ill-trained and poverty-stricken physicians, and on the duty of the public to support and encourage both legally and economically a medical profession which can afford to be disinterested, unselfish and philanthropic. If this is not done, the next decade will see the standard of the medical profession lowered simply through force of economic pressure.

Leading men all over this country are lending their efforts toward uniting the profession; are working in season and out of season for better organization, asking the profession to lay aside jealousies and unite for the common good. Local medical societies are discussing the necessity for more widespread interest in the doctor's welfare; medical economics is arousing more interest than ever before.

Vermont Medical Monthly, Burlington

June

144 What Can be Done to Control the Spread of Venereal Diseases? W. S. Reynolds, New York.
145 Renal Insufficiency. W. W. Townsend, Rutland.
146 The Trouble with Therapy. C. H. Beecher, Burlington.
147 Puerperal Septicemia. A. M. Butterfield, Burlington.
148 Treatment for Burns. E. P. Lunderville, Richford, Vt.

New Mexico Medical Journal, East Las Vegas

June

149 Obscure Tuberculous Adenitis. F. T. B. Fest, Las Vegas.
150 Bronchopneumonia. J. B. Graham, Artesia.
151 Surgical Complications of Typhoid Fever. H. A. Ingalls, Roswell.
152 Home Treatment vs. Sanitarium Treatment of Tuberculosis. A. G. Shortle, Albuquerque.

Montreal Medical Journal

July

153 Levulosuria, and its Significance in the Diagnosis of Hepatic Conditions. W. F. Hamilton, Montreal.
154 *Regeneration of Shaft of Tibia Following Extensive Osteomyelitis. L. A. Hutchison, Montreal.
155 Surgical Treatment of Exophthalmic Goiter. F. J. Shepard, Montreal.
156 The Psychoneuroses in Asylum Practice. W. H. Hattie, Halifax, N. S.
157 Acute Poliomyelitis Based on the Observation of Thirty-eight Recent Cases with Two Autopsies. C. K. Russel, Montreal.
158 Colored Toric Lenses for Use in Examining Cases of Ocular Paralysis. W. G. M. Byers, Montreal.
159 Amblyopia *ex* Anopsia with Acquisition of Good Vision. G. H. Matthewson, Montreal.

154. **Regeneration of Shaft of Tibia.**—The diaphysis of the right tibia being devoid of periosteum and virtually separated from both the upper and lower epiphyses, Hutchison removed it. Involucrum was already present. After disinfection with pure carbolic acid and alcohol, the part was packed with iodoform gauze and limb placed in a plaster cast, leaving a fenestra over the wound. Eleven days later, under ether anesthesia, the cavity was disinfected, the periosteum separated from subcutaneous tissue and brought together at a few points with catgut sutures, with a view to reproducing the original circular form of the periosteum. The periosteum was then filled with Mosetig-Moorhof's plumbage. The skin being brought together over the surface, provision was made for drainage by the introduction of iodoform gauze at the upper and lower margins carried down to the epiphysis. The limb was put in a plaster cast supplemented with a weight and pulley extension apparatus, in the hope that this might aid in retaining the normal position of the limb during the process of repair, thus preventing curving due to fibula continuing its longitudinal growth, as well as the lack after the removal of the sequestrum. Drainage was kept up for many months, small particles of iodoform plumbage being washed out from time to time. Patient was discharged five months later in good condition with his limb in a plaster case. There was slight antero-posterior movement in the middle of the shaft on the new growth. A year later complete regeneration of the bone had taken place.

Western Medical Review, Omaha

June

160 Present Status and Tendencies of the Medical Profession. P. H. Salter, Norfolk, Neb.
161 Epidemic Infantile Poliomyelitis. G. P. Shidler, York, Neb.

Journal Advanced Therapeutics, New York

June

162 Obliterating Endarteritis of the Digitals, Dorsals and Plantares. H. W. Frauenthal, New York.
163 Action of the X-ray and High Frequency Currents in Pulmonary Tuberculosis. F. deKraft, New York City.
164 Diabetes Mellitus. F. B. Bishop, Washington, D. C.
165 Goiter. H. Snow, Norwood, Ohio.

St. Louis Medical Review

June

166 Tuberculosis. R. F. Bellaire, St. Louis.
167 Conservation of Human Life. L. H. Montgomery, Chicago.
168 *Treatment of Trachoma. E. T. Hornback, Hannibal, Mo.
169 Surgery of the Nasal Septum. W. D. Black, St. Louis.
170 Headache. G. F. Butler, Chicago.
171 Sarcoma of the Uterus. H. C. Dalton, St. Louis.

168. **Treatment of Trachoma.**—The suggestion Hornback makes refers to dilatation or stretching of the lids, exerted mainly on the external portion of the lids, that is, toward the outer canthus, thereby avoiding the possibility of in any way disturbing the integrity of the canaliculi. This treatment is applied especially to selected cases, in which, by reason of the irritation accompanying trachoma, the lids were tightly drawn and almost constantly blinking, and, as it were, fairly wearing the cornea away. Under cocain anesthesia Hornback gently introduces the tip of the forefinger or the end of the smooth broad handle of an appropriate instrument, beneath the upper lid. Gentle but firm traction is then made on the lid especially toward the outer canthus. The degree of traction will have to be governed by the individual case. After finishing with the upper lid, the lower lid should receive the same kind of treatment, but to a lesser degree, as usually very little irritation of the cornea comes from the lower lid. In the after-treatment of these lids, one gets a slight dilatation when making the application itself. Hornback takes a stiff applicator, either metal or wood, and winds it firmly with absorbent cotton, dips it in whatever solution he wishes to use, then passes it beneath the lid and gently pulls toward him as he rubs the applicator from side to side beneath the lid. This application serves a three-fold purpose, viz., slight dilatation, friction, or massage, and medication.

Atlanta Journal-Record of Medicine

June

172 Practical Aids in Medical and Surgical Diagnosis. L. M. Gaines, Atlanta.
173 Vaccine in Tuberculosis. E. C. Thrash, Atlanta, Ga.
174 Treatment of Chronic Prostatitis. A. L. Fowler, Atlanta, Ga.
175 The Doctor, The Public and Medical Legislation. J. G. Dean, Dawson, Ga.
176 Brain Tumor, with Exhibit of Two Patients. W. Taylor, Atlanta, Ga.
177 Alcoholism and Drug Addictions. W. A. Starnes, Atlanta.
178 Hookworm Eradication. L. J. Sharp, Commerce, Ga.
179 Purpura. L. C. Allen, Hoschton, Ga.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

July 2

1 *The Treatment of Chronic Bright's Disease. W. P. Herringham.
2 *The "Pancreatic Reaction" in Abdominal Disease. W. Russell.
3 *The Results of the "Pancreatic Reaction." P. J. Cammidge.
4 Gall-stones: Acute Pancreatitis: Recovery. C. E. Salter.
5 Impacted Gall-stones in Cystic Duct: Operation: Recovery. C. F. Fothergill.
6 Dermatitis Artefacta and its Sequel. R. O. Adamson.

1. **Treatment of Chronic Bright's Disease.**—For the headache of chronic diffuse nephritis, Herringham has never, he says, found any drug so good as cannabis indica. It is better than any of the coal-tar compounds. He generally combines it with small doses of iodid and bromid of potassium. High blood-pressure he has come to regard as a conservative effort. In older people, no doubt, it brings dangers of its own, especially of cerebral hemorrhage from rupture of the vessels. Endarteritis is not the same thing as, is not even a cause of, fragility. That is due to changes in the media which depend chiefly on age. Accordingly, these patients stand a blood-pressure which older patients could not bear, and, as a matter of fact, seldom die of cerebral hemorrhage. Herringham maintains that one is not obliged to regard their high blood-pressure as a serious danger. It is an effort not only to maintain the general circulation, but also the flow of blood through the kidneys, which is of the last importance to postpone uremia.

Uremia he is inclined to regard as due to the absorption of some product of renal cells destroyed in the progress of the disease, and compares it to the condition called cholemia in which many cases of hepatic cirrhosis terminate. The symptoms of each are not unlike, and the morbid process is similar also. What are we to do, he asks, when the urine becomes scanty? It may seem madness to employ digitalis when the pressure is already excessive. Herringham has given reasons for believing that the danger in this direction is not so great as we think, and the circumstances are desperate. Accordingly, while endeavoring to lighten the task of the kidneys by means of the skin, while using hot packs, hot air baths, and even injections of pilocarpin nitrate in order to secure the removal of some water and salts by perspiration, we must at the same time, by digitalis and theobromin sodium salicylate, try to raise the blood-pressure and recover the level of excretion. If the uremia manifests itself, as it sometimes does, rather by

dyspnea than by convulsions, the inhalation of oxygen is an additional aid. Should, however, the fits continue, relief must be given by bleeding.

2. **Pancreatic Reaction in Abdominal Disease.**—In his investigation Russell confined himself to the examination of the urine in patients with abdominal symptoms, or definite abdominal lesions, as his aim was to ascertain whether any assistance was to be obtained from the presence or absence of the reaction in making a differential diagnosis. Cases were selected in which it was thought that the reaction might be helpful in one or other direction. He has tabulated 78 cases which are fairly representative of the types of abdominal cases met with. There are four cases in which the reaction was not only positive, but marked in amount and in the promptness of its appearance. One patient had necrotic pancreatitis and died of a profound toxic asthenia. The second patient was a man with not very definite gastric symptoms who shortly after admission developed a condition of toxic asthenia, and whose urine deposited Cammidge crystals copiously after ten minutes. This patient passed one or two motions involuntarily which contained altered blood, as shown by chemical examination. At the autopsy there was found a small malignant growth on the posterior wall of the stomach which had become a slough, while the liver presented an extraordinary appearance from the presence not only of secondary growths, but extensive necrosis from infarction. The pancreas presented no abnormal change. Three cases of cirrhotic liver gave a positive reaction.

Fifty-five cases, most of them hospital cases, with symptoms referable to disordered gastrointestinal function, sufficiently severe to require hospital treatment, or with definite lesion, constitute a series of almost consecutive cases, in many of which it was thought the reaction might be found to be of some diagnostic significance. In 26 of them the reaction was negative, in 29 it was positive. Of 5 check cases in persons with no abnormal symptoms, one, a case of arteriosclerosis with normal pancreas, gave three times a positive reaction and once a negative; another, a woman suffering from subacute rheumatism, gave three times a positive reaction. Seven observations made on three of the staff gave 6 positive reactions and one negative, and these men were all in excellent health at the time.

From these results it is seen that a positive Cammidge reaction may be obtained from the urine of persons in good health suffering from a great variety of abdominal disease or disorder; that it may be present when autopsy shows that the pancreas is not the seat of any anatomic change. All this to the physician and to the pathologist definitely excludes pancreatitis as the cause of the Cammidge reaction.

3. **Pancreatic Reaction.**—Thirteen cases of acute pancreatitis gave a positive pancreatic reaction; 6 patients were operated on, and the pancreas was found to be acutely inflamed in all, with disseminated fat necrosis in 5. The diagnosis was confirmed by post-mortem examination in 3. Gall-stones were discovered in the common bile duct of 2. One had a history of repeated attacks of jaundice with spasm, and had probably suffered from common duct cholelithiasis, but there was no jaundice at the time of analysis. In three, the pancreatitis was the sequel of an attack of mumps, but in 4 other cases of the same disease the urine gave no reaction. Two cases gave a history of indigestion and abdominal discomfort extending over several months previous to the attack. Three of the patients operated on died, and 3, including the 2 in whom gall-stones were found, recovered. All the patients not operated on died, except the 3 whose pancreatitis followed mumps.

Cammidge examined specimens of urine from 264 patients in which gall-stones were found at operation, and of these 149 (56 per cent.) gave a positive reaction. In 183 patients the gall-stones were in the common bile duct, and of these 131 (69.6 per cent.) gave a positive, and 57 (30.4 per cent.) gave a negative pancreatic reaction—percentages which correspond fairly closely with the proportion of patients in whom the common bile duct lies embedded in the pancreas (62 per cent.) and runs in a groove on the surface of the gland (38 per cent.). Out of 76 patients in whom gall-stones were found in the gall bladder or cystic duct at operation only 18 gave a positive pancreatic reaction and were stated to have pancreatitis; 58 gave a negative result, as did also 17, diagnosed clinically as cholecystitis, 6 of whom were operated on, that Cammidge included in the miscellaneous group. Bile pigment was found in the urines of 11, including 9 of those that gave a positive pancreatic reaction; 15 gave a reaction for urobilin, and of these 10 gave a pancreatic reaction. Calcium oxalate crystals were met with in the deposit from the urines of all those that gave a positive pancreatic reaction, and in 4 of those with which no reaction was obtained. Of 403 cases in which the clinical symptoms and results of the analysis of the urine and feces point to there being disease of the intestine other than a malignant growth, the urines of 211 (52 per cent.) gave a positive pancreatic reaction.

A diagnosis of catarrhal jaundice was made in 53 of the patients examined and in 42 of these a positive pancreatic reaction was obtained, suggesting that in over 79 per cent. the condition was associated with some active degenerative changes in the pancreas. Fifteen of the patients giving a positive reaction were submitted to operation because of the persistence of the jaundice, and in all of these the pancreas was found to be enlarged and harder than normal. Cammidge examined specimens of urine from 50 cases of ulcer of the duodenum and 47 of gastric ulcer, all of which were confirmed by operation; 27 (54 per cent.) of the former and only 5 (10.6 per cent.) of the latter gave a pancreatic reaction. In 2 of the cases of gastric ulcer, and in 1 of duodenal ulcer, the ulcer was said to be eroding the pancreas. Out of the 13 cases of sprue, 8 gave a positive reaction, and in 2 of these post-mortem examination showed pancreatitis; 4 out of the 6 cases diagnosed as pernicious anemia gave a pancreatic reaction. In one of these, examination after death revealed chronic inflammation of the pancreas and an ulcerated condition of the duodenal mucous membrane. Operation on 2 also tended to confirm the diagnosis of chronic pancreatitis. Six cases diagnosed as tuberculosis of the intestine gave a negative reaction, as did also 3 of pulmonary tuberculosis. Cammidge has examined the urine from 92 cases of malignant disease, and obtained a positive pancreatic reaction in 34 (37 per cent.). Of the four patients with pancreatic cyst that he has examined the urines of 2 gave a positive pancreatic reaction and in 2 it was negative. One of the latter had, however, been operated on, and the cyst drained for some three months. Of the 73 cases diagnosed as cancer of the pancreas that Cammidge has examined, the urines of 24 of the patients (33 per cent.) gave a positive reaction and 49 (67 per cent.) gave a negative reaction. The diagnosis was confirmed by operation in 18, and by post-mortem examination in 7. Two of the latter had given a positive result and 5 a negative reaction, which corresponds with the proportions diagnosed clinically at operation, which have given a positive and negative results respectively. In a miscellaneous group of 467 cases 461 gave a negative pancreatic reaction. Of normal specimens of urine from 50 presumably healthy individuals, none gave a positive pancreatic reaction.

Lancet, London

July 2

7 *The Cerebrospinal Fluid. F. W. Mott.
8 The Behavior of the Leucocytes in Infection and Immunity. F. W. Andrewes.
9 *The Pelvic Conditions Resulting from the Slighter Forms of Puerperal Sepsis and Their Treatment. W. J. Sinclair.
10 The Tuberculous Gland; Its Significance and Treatment. R. W. Philip.
11 Administration of the Public Health and Education Acts in Relation to the Prevention and Cure of Diseases of the Nose and Throat. T. J. Faulder.
12 Points in Favor of Early Operation in Appendicitis. A. H. Buck.
13 *Distribution of Treponema Pallidum in Congenital Gummata. A. E. Shaw.
14 Obscure Cases of Extrauterine Pregnancy. T. B. Broadway.

7. **The Cerebrospinal Fluid.**—It is contended by Mott that the cerebrospinal fluid comes into relation with the nerve-cell elements and therefore may be the ambient fluid. Substances are unable to pass from the capillaries into the lymph spaces, but experiments show that substances are able to find their way rapidly into the blood when injected into the subarachnoid space. This may be by the channels already alluded to. Mott has shown that the perivascular lymphatics open into

the subarachnoid space, and if these perivascular lymphatics contained ordinary tissue lymph, the cerebrospinal fluid would contain a very much larger amount of protein and lymph-cells than it does; there must be some medium of exchange between the blood in the capillaries and the neurons, and, therefore, why not, he asks, the cerebrospinal fluid?

Suppose it be granted that the cerebrospinal fluid may functionate as the lymph of the brain, and is the ambient fluid in which exchanges take place between the blood in the capillaries and the neurons, can we explain why substances do not pass out of the capillaries into the fluid? Most authorities are agreed that there is no lymphatic sheath on the capillaries, so that we have only, so far as we know, the wall of the capillary intervening between the blood and a fluid which is similar to blood plasma in its crystallized diffusible substances although not identical, for its alkalinity is only half that of the blood, and the sugar it contains is less. Is it a reasonable hypothesis, asks Mott, that the osmotic pressure as regards water and carbon dioxid is from the ambient cerebrospinal fluid of the blood, and that certain of the salts and sugar pass from the blood to the fluid through the wall of the capillary? As we have no precise knowledge of the composition of the cerebrospinal fluid as it leaves the cells of the choroid plexus, we can only say it is possible that this fluid is not exactly the same in composition as that which is contained in the subarachnoid space. By this Mott means to infer that the fluid which is secreted by the epithelial cells of the choroidal gland in its passage from the subarachnoid space along the perivascular lymphatics back to the subarachnoid space may receive substances—e. g., an addition of sugar and possibly some salts.

Whether this fluid, as it is secreted by the choroid plexus, is the same as that withdrawn from the subarachnoid space by lumbar puncture is the crucial point which requires to be settled before the hypothesis Mott would draw, can be maintained. The hypothesis is that the fluid as it circulates in the perivascular and pericellular channels may give up water and carbon dioxid and take up oxygen and sugar. Seeing that there is no proof that the fluid contains a glycolytic ferment, it may, if this hypothesis is true, be assumed that the ganglion cells produce the necessary glycolytic ferment by which the sugar can be converted into neural energy. The observations and experiments are, however, all in a preliminary stage and much work still is necessary before any safe conclusions can be drawn. The results so far obtained, however, are sufficiently encouraging to lead to a continuance of the work.

9. Same as No. 36, below.

13. **Treponema Pallidum.**—In a section of a small liver gumma (which was about ⅛ inch in diameter) Shaw was struck by the appearance of a dense black band disposed more or less concentrically to the center of the gumma, but at its periphery. This band occupied the position of a boundary zone between the healthy liver tissue and the gumma tissue; it was, in fact, the periphery of the gumma. This was seen with a ⅓ inch objective. On applying the 1/12 inch oil immersion, this black band resolved itself into a dense felted network of spirochetes which were lying at every possible angle to the plane of section, and overlying each other like handfuls of pins. Proceeding inward from this band toward the center of the gumma there were many more, but proceeding outward from the black band above mentioned they rapidly diminished in number as healthy tissue was reached, till at a distance of about a millimeter from the gumma they were very infrequent. Similarly prepared and cut sections of many other gummata were examined, and in all of them this peripheral band could be seen, varying in thickness and occasionally more or less interrupted, and always on being examined it was found to be caused by thickly aggregated spirochetes.

Clinical Journal, London

June 22

15 Foreign Bodies in the Air-Passages. C. Wall.
16 The Treatment of Indigestion. E. I. Spriggs.

June 29

17 Inguinal Ruptures Which are Difficult to Manage and Their Treatment. C. B. Lockwood.

Australasian Medical Gazette, Sydney

May

18 Filaria in Queensland. E. S. Jackson.
19 Id. P. Bancroft.
20 Filariasis. J. B. McLean.
21 *Two Interesting Human "Dermoid Cysts" of the Ovary (Embryomata). J. B. Cleland.
22 Treatment of Hydatid Sinuses by Injections of Bismuth Vaseline. P. Bollen.
23 Bullet Wound in the Abdomen. P. T. S. Cherry.
24 Tests for Color Vision. C. H. Taylor.
25 Question of Premature Termination of Pregnancy. W. T. Chenhall.
26 Extrauterine Pregnancy. H. R. Rice.

21. **Human "Dermoid Cyst" of Ovary.**—In the first of these cysts seen by Cleland a small embedded mass had the naked-eye appearance of the thyroid tissue, and, on microscopic examination, showed the typical characters of that gland. The other cyst besides having contents of fatty matter and hairs, and showing several perfect teeth, and microscopically many sebaceous glands, had at one part a projecting mass. On the under side are a number of teeth—in the center two perfect incisors, on each side of these a perfect bicuspid, while on the (observer's) left side, two masses irregularly placed probably represent unerupted molars. Above this was a mass of cancellous bone and muscular tissue, through which traveled backward, immediately above the teeth, a laterally compressed smooth lined cavity, divided into two by a partition. From the outer wall of this cavity on one side projected mesially a rounded fold (turbinated bone?). These cavities were evidently the nasal. Above them was a vague mass of fatty and other tissue, and above this again a broad strand of nervous matter, loosely adherent to the underlying structures. This strand was 1½ inches long by ⅜ inch broad by ⅛ inch thick. It was enveloped by an imperfect membrane and attached to it and projecting forward in front of the teeth was a smooth-lined cyst, 1½ inches long by ¾ inch wide by ½ inch deep, which stretches across the cavity of the dermoid to be attached to the opposite wall. A small cyst, attached to the nervous strand, contained a light yellow fluid which did not actually reduce Fehling's solution, but altered slightly its color.

Sections of the band of nervous tissue showed a granular matrix with fairly numerous scattered small cells like neuroglia cells and small vessels. There were also a few large cells highly suggestive of cortical cells and scattered concentric bodies (corpora amylacea). At one spot was a large mass of melanin granules surrounded by fibrous tissue.

Dublin Journal of Medical Science

June

27 Acute Leukemia. T. G. Moorhead.
28 Splenomedullary Leukemia Treated by *X*-rays. M. R. J. Hayes.
29 The History of the Prevention of Smallpox. T. P. C. Kirkpatrick.
30 *Radical Operation for the Cure of Umbilical Hernia. J. S. Darling.

30. **Umbilical Hernia.**—Darling's operation differs from Mayo's in that the lower portion of the ring is deeply embraced in the split rectus muscle above, and a double abdominal wall is opposed to the internal pressure.

Medical Press and Circular, London

June 22

31 Head's Area as a Diagnosis in Dental Cases. A. W. W. Baker.
32 Referred Cardiac Pain. F. G. Thomson.
33 Gall-stones: Their Medicinal and Prophylactic Treatment. J. E. McCracken.
34 *A New and Simple Method of Performing Wassermann's Test for the Diagnosis of Syphilis. R. Weiss.

June 29

35 Demonstration of Surgical Cases. A. H. Tubby.
36 *The Pelvic Conditions Resulting from the Slighter Forms of Puerperal Sepsis and Their Treatment. W. J. Sinclair.
37 The Prevention of Mortality after Pelvic Operations. H. Macnaughton-Jones.
38 The Wassermann Reaction. P. Rostaigne.

34. **Wassermann Test for Diagnosis of Syphilis.**—Weiss describes his method as follows: Open the bottle containing antigen and draw the fluid up into the dark amber glass pipette to the graduation. Eject this into two tubes. Add 2 c.c. salt solution to the antigen in tube 1. Place 2 c.c. salt solution in tube 2. (This tube forms the control.) Place two complement papers in each test tube. These must be completely immersed in fluid. Take up defibrinated blood in

the light brown pipette to the graduation mark. Transfer this to tube 1. Put an equivalent amount of defibrinated blood in tube 2. Let the two tubes remain at a temperature of the room for an hour. Shake from time to time. By means of an ungraduated pipette, transfer the contents of one amboceptor bulb to tube 1 and a similar quantity of amboceptor to tube 2. Shake well. Ten to fifteen minutes later again shake. In a short time the control tube 2 will show solution of the blood-corpuscles, and the liquid will become red. In tube 1, if the reaction is negative, the appearances will be identical with those in the control tube (either at the same time or a little later). If the reaction is positive, tube 2 will show a sedimentation of the red corpuscles, but no solution, and in about 30 minutes the blood-corpuscles will have settled to the bottom of the tube without the blood-cells being dissolved, and the supernatant liquid will be clear and light. A certain amount of solution of the red corpuscles may take place in tube 1, if it is allowed to stand for some hours. As controls it is recommended that serum known to yield a positive result should be tested, and also serum from a healthy individual.

36. **Pelvic Conditions in Puerperal Sepsis.**—Sinclair holds that every woman should be carefully examined 6 or 8 weeks after her confinement; if subinvolution without complication is discovered treatment should at once be begun with the object of bringing the uterus to its normal condition; if uncomplicated retroflexion is diagnosed the use of tampons, followed by the temporary wearing of a pessary, may possibly be successful; if tampon and pessary fail to restore the uterus to its normal condition and position, adhesions must be suspected and efforts made to break them down by manipulations under anesthesia; failing success by manipulation, ventrofixation with the necessary modifications is the only rational operation; in every case of one-child sterility with retroflexion, whatever the negative evidence, puerperal sepsis to some degree should be assumed as the case and ventrofixation resorted to. Sinclair says that as the futility of pessary treatment becomes more generally recognized, ventrofixation will take its proper place as the only reliable and successful method of treating all complicated cases of displacement of the uterus.

Indian Medical Gazette, Calcutta

June

39 The Treatment of Snake-bites with Potassium Permanganate. W. B. Bannerman.
40 Operation Rooms in the Tropics. W. G. King.
41 The Indian Oculist; His Equipment and Methods. H. E. Drake-Brockman.
42 Technic of the Hypodermic Injection, Including a Critical Survey of the Types of Syringe in Use. W. E. McKechnie.

Bulletin de l'Académie de Médecine, Paris

June 21, LXXIV, No. 24, pp. 613-650

43 *Vaccination of Man Against Typhoid Fever. H. Vincent.
44 *Inflammatory Tumors Produced by Lint from the Dressings. (Tumeurs inflammatoires produites par certains pansements.) P. Reynier.
45 Symmetrical Brachydactylia and Other Skeleton Anomalies Inherited Through Several Generations. (Tératologie humaine.) E. Vidal.

43. **Vaccination Against Typhoid.**—See Paris Letter, July 9, page 138.

44. **Inflammatory Tumors Produced by Scraps of Cotton from Dressings.**—Reynier and Masson found a cotton thread in the depths of a tumor that developed after operative removal of a mammary cancer in one case and of a cancer of the neck in a young man. In each case the cotton fiber had evidently been pressed or sucked into an open vessel and it had induced an extensive reaction of phagocytic giant cells. They suggest that the intense sterilization to which the gauze sponges are subjected renders them friable so that scraps of lint may readily be left behind. In a third case the inflammatory tumor had developed in the stomach after an operation on the pylorus. They suggest hemming the gauze to do away with raw edges. These pseudorecurrences of cancer are probably quite common; the brief interval—only 20 days in the first case—and the size of the lesion in comparison with this short interval, should suggest the true nature of the tumor observed. Possibly the fact that the above were all cancer cases may explain the exuberance of the phagocytic reaction. In the first case the inflammatory tumor extended along the pectoralis muscle, and it was hard and knobby, of fibrous consistency, compelling removal of a large mass of muscle, curetting the axilla and resecting 6 cm. of the axillary vein.

Presse Médicale, Paris

June 22, XVIII, No. 50, pp. 465-472

46 *Autoserotherapy with Ascitic Effusion. G. Roque and V. Cordier.
47 Staphylococcus Vaccine in Treatment of Staphylococcus Skin Disease. A. Mauté.
48 Technic for Determination of Typhoid and Paratyphoid Bacilli in the Stools. A. Sicre and E. Combe.

June 25, No. 51, pp. 473-488

49 *Catheterization of the Ureters and Intravesical Segregation of the Urine. H. Boyer.
50 Physiologic Bases of Medical Electricity. (La sclérolyse électrique.) A. Zimmern and P. Cottenot.
51 The Painful Spots in the Abdomen with Chronic Appendicitis. J. Silhol.
52 The Ciliary Ganglion as the Peripheral Center for the Pupil Reaction to Light and the Argyll-Robertson Phenomenon. A. Marina.

46. **Autoserotherapy of Ascites.**—Roque and Cordier had such favorable experiences with autoserotherapy of pleuritic effusions that they were impelled to try this method of treatment in several cases of ascites, but the results were discouraging. It is possible, however, they say, that they encountered an unusually unfortunate series, and they are now still trying the treatment, as their experiences have amply demonstrated its entire harmlessness.

49. **Catheterization of the Ureters.**—Boyer reviews a number of experiences at the Necker Hospital at Paris in which catheterization of the ureters proved of decisive differential value, while attempts at segregation of the urine in the bladder by the Luys and Cathelin methods gave misleading findings. The best of all means of testing the functioning of the kidneys Boyer believes to be Albarran's two-hour experimental polyuria method. The catheters are placed in the ureters and left there for two hours, the amount of urine collected is measured every half hour, and between the first and the second half hour the patient drinks three tumblerfuls of water, inducing extra functioning on the part of the kidneys. The results of this test are always instructive and sometimes fairly marvelous, Boyer exclaims. In one case the segregation findings seemed to indicate normal functioning of one kidney while the pyonephrosis of the other had suppressed entirely its functioning. The polyuria test, however, revealed that the apparently sound kidney was utterly incapable of responding to even this slight extra demand, showing that the contemplated nephrectomy would have been fatal. Simple nephrostomy tided the patient past the danger point. In another typical case three surgeons counseled nephrectomy for supposed tuberculosis of the kidney, but the ureter catheter revealed that the trouble was hematuria complicating an absolutely latent hydronephrosis. The ureter catheter not only diagnoses the trouble but it is a potent means of treatment besides. One of the patients had suffered for twenty years from pains in the right side, and had been treated for supposed liver, intestinal and gastric trouble, and even the gallbladder had been removed, but the pains continued unmodified. The ureter catheter disclosed that the trouble was merely a slight pyelonephritis in a movable kidney with a little dilatation of the pelvis. A few lavages of the pelvis cured the infection and the patient was freed at once from all disturbances and has had no recurrence for over a year to date. In another case the ureter catheter displaced a small calculus which had totally obstructed the flow of urine from a large single kidney, after anuria for seven days. The harmlessness of catheterization of the ureters is amply proved by "Mother Jolly," the woman for whom Albarran invented the ureter catheter in 1885, and on whom he tried it again and again until he had perfected it to his satisfaction. She had pyonephrosis but refused to have the kidney removed, preferring to submit to anything rather than nephrectomy. Her kidney is still *in situ* and it still gives its 7 or 8 gm. of urine a day with 12 per thousand urea. She has passed through two normal pregnancies since and is still active as a sick nurse. Partly from therapeutic purposes and partly from kindly interest in the advancement of medical science she has served

as a living manikin for the demonstration of catheterization of the ureters for hundreds of students, so that her right ureter has been catheterized more than five hundred times.

Semaine Médicale, Paris

June 29, XXX, No. 26, pp. 301-312

53 *Spasmodic Ileus and Chronic Enterospasm. L. Cheinisse.

53. **Spasmodic Ileus and Enterospasm.**—Cheinisse has been able to find quite a number of cases on record in which enterospasm induced ileus, simulated appendicitis or was responsible for serious disturbances otherwise. The spasmodic contraction may be a reaction to the presence of even a small gall-stone, foreign body, débris of food or helminths in the bowel, or it may be a reaction to some abdominal lesion outside the intestines as in the case reported recently by Exner and Jäger, in which a retroperitoneal tumor had involved the nerves of the region, and the enterospasm was evidently due to nervous influences outside. The enterospasm may be acute or chronic. Rinne has recently reported a case in which a portion of the small intestine four inches long was tightly contracted, but the long chronic disturbances subsided for three years after the laparotomy. Then they returned under the influence of emotional stress. Hot applications and belladonna, which had before been ineffectual, this time rapidly conquered the enterospasm. In Descœudres' recently published case the acute intensely painful enterospasm in a farmer of 50, was accompanied by somnolency, subdelirium and vomiting. The laparotomy revealed that the small intestine was contracted over a clump of six long ascarides, all dead. The symptoms grew worse and the patient died 72 hours after their first onset. The symptoms on the part of the nervous system observed in this case were probably due to absorption of toxins from the living or dead helminths.

Beiträge zur Klinik der Tuberkulose, Würzburg

XVI, No. 3, pp. 183-325. Last indexed June 4, p. 1909

54 *Minute Doses of Tuberculin as Means to Abolish Fever. (Ueber Entfieberungen bei Lungentuberkulose durch kleinste Dosen Tuberkulin.) Philippi.
55 *Tuberculous Consequences of Idiopathic Pleurisy. H. Allard.
56 *Serodiagnosis of Pulmonary Tuberculosis. F. Starkloff.
57 Combined Specific Treatment of Tuberculosis. A. Aravandinos.
58 *Temperature of the Tuberculous at Night. (Ergebnisse nächtlicher Temperaturmessungen bei Tuberkulösen.) F. Junker.
59 Omentum Tumor. (Netztumor.) O. R. Teutschlaender.
60 Tuberculin Immunity. F. Hamburger and R. Monti.
61 Early Recognition and Treatment of Tuberculosis with Tuberculin. (Frühzeitige Erkennung und Behandlung der Lungenschwindsucht durch Tuberkulin.) Lobedank.
62 *Titration Method of Tuberculin Test. (Untersuchungen über die diagnostische Bedeutung des Tuberkulintiters.) A. Erlandsen and O. V. C. E. Petersen.

54. **Disappearance of Fever Under the Influence of Tuberculin.**—Philippi remarks that there have been comparatively few articles published on tuberculin as a means to restore the temperature of the tuberculous permanently to normal, and yet he considers this one of its most important functions and a most decisive proof of its therapeutic efficiency on the whole. He reports 90 febrile cases and states that the fever was thus banished in 65; that is, in 72.2 per cent. He gives the tuberculin in the minutest doses, and the results in the chronic subfebrile cases are surpassing all anticipations. The guide to dosage is the systematic examination of the tuberculous focus in the lung 24 hours after each injection and again just before repeating the injection. He aimed merely to keep the dose just at the level of a distinct action on the focus without general reaction. This method requires extreme individualization, adapting the dose to the special conditions encountered at each examination. The doses ranged up to 3 and 6 millionths of a milligram; the febrile reaction sometimes observed even with these minute doses confirms their pharmacologic power. A focus in the lung shows a reaction to the tuberculin more readily than a bone, glandular or laryngeal process. The 90 cases were under observation in the course of 4½ years and an average of 36 or 24 days was required before the temperature became permanently normal in the 27 patients in the first stage of tuberculosis; from 46 to 28 days in the 23 patients in the second stage, and 63 to 41 days in the 40 in the third stage. All this material is compared with control series in each group, not given tuberculin treatment.

55. **Tuberculous Sequences of Idiopathic Pleurisy.**—Allard has been investigating how many patients with idiopathic pleurisy acquire tuberculosis later. After reviewing the literature on the subject he gives the results of inquiry into the present condition of all the patients with idiopathic pleurisy at the three hospitals in Gothenburg since 1881, most of them having been examined twice with an interval of 5 years. Of the 200 patients, 61 have died of tuberculosis and 27 per cent. of all the children under 15 and 54 per cent. of all the patients between 16 and 50 are now tuberculous. The tuberculous focus is generally on the same side as the pleurisy. The data presented seem to indicate that idiopathic pleurisy is of tuberculous origin more often than is generally suspected.

56. **Serologic Diagnosis of Tuberculosis.**—The various methods for serologic differentiation of tuberculosis were given a thorough trial by Starkloff, but none stood the test except J. Bauer's method of passive transmission to guinea-pigs of the hypersensitiveness of the tuberculous. This is demonstrated by the reaction afterward of the animal to injection of tuberculin. The anaphylaxis thus conferred on the animal was the more pronounced the more serious the tuberculosis in the patient yielding the material. The advantage of this technic is that the reaction to the tuberculin test is transferred from the patient to the guinea-pig and the patient is thus spared the disagreeable reaction, while the findings are equally conclusive as if it had occurred in him. The animals are kept for a few days in an equably warmed room, and their temperature taken every four hours. They are then given a subcutaneous injection of 1 or 2 c.c. of human serum, centrifugated and injected under the skin of the abdomen. The temperature is then taken every 2 hours and, at the end of 24 hours, 0.1 c.c. of "old" tuberculin is subcutaneously injected and the temperature taken every hour, as the reaction is liable to occur early and be brief; it may even be past in 2 hours. An unmistakable rise in temperature is a proof that the tuberculin injected has encountered antibodies in conjunction with which it induces the temperature reaction. In other words, the rise in temperature demonstrates the passive transmission of hypersusceptibility and shows that the person from whom the serum had been derived must have, himself, been hypersusceptible. The control tests were all negative in Starkloff's extensive research when the serum had been derived from persons without active tuberculosis.

58. **Taking the Temperature at Night in the Tuberculous.**—Junker uses a rectal maximal thermometer in the form of a small suppository which he has found very convenient, and which has revealed an unsuspected frequency of high temperatures during the night in the tuberculous, or of fever when the temperature was normal during the day. The "retention" maximal thermometer either day or night may also prove useful in estimating the severity of tuberculosis.

62. **The Quantitative Titration Tuberculin Test.**—Erlandsen and Petersen comment on the errors liable with other methods of tuberculin testing and especially the sensitization liable to occur on repeating the subcutaneous tuberculin test, inducing misleading findings. These errors are obviated with the simultaneous application of the tuberculin in varying concentrations according to the Erlandsen and Ellermann titration method (described in THE JOURNAL, May 15, 1909, page 1634, and May 14, 1910, page 1656). This article reports the findings with this test applied to 566 persons, including 44 tuberculous, 46 suspects and 457 with no clinical signs of tuberculosis. The post-mortem findings in 27 autopsies confirmed those of the titration test. A row of 5 incisions is made with a lancet adjusted to cut only to a certain depth; one serves as a control, the others are inoculated with a 32 per cent., 8, 2 and 0.5 per cent. solution of tuberculin. The diameter of the papules, measured at the twenty-fourth and forty-eighth hours, is the criterion, and the average diameter of the four papules is used in the formula to compute the actual titration finding. The material reported on is classified as (1) the clinically non-tuberculous, *a*, without tuberculosis in the family, and *b*, with; (2) the suspects, *a*, with suspicious antecedents, and *b*, with scrofula in childhood; and (3) the tuberculous, *a*, in the first stage of pulmonary disease or

with bone, glandular or other tuberculous lesions, and *b*, advanced tuberculosis in any organ. The entire material is tabulated with the details. The titration value persists high for a long time in persons who had glandular or bone tuberculous process in youth, and this should be borne in mind in estimating any reaction to tuberculin. When the titration value is low in persons known to have had a tuberculous process, this sustains the assumption that it is no longer active.

Berliner klinische Wochenschrift

June 13, XLVII, No. 24, pp. 1093-1164

63 *Diagnosis of Typhoid. (Klinische Betrachtungen zur Typhusdiagnose.) L. Wagner.
64 *Importance of Bacteria of the Paratyphoid B Group in Human and Animal Pathology. E. Hübener.
65 Paratyphoid Infection in an Infant. Eckert.
66 Systematic Prophylaxis of Diphtheria. (Zur Frage der systematischen Diphtheriebekämpfung.) R. Otto.
67 Pathologic Anatomy of Disturbances in Heart Rhythm. (Rhythmusstörungen des Herzens.) W. Koch.
68 *Traumatic Origin of Fat Embolism. W. Bergemann.
69 *Cosmetic Treatment of Facial Paralysis by Loop of Wire Drawing up Corner of Mouth. (Behandlung der Facialislähmung nach Busch.) O. Momburg.
70 Improved Technic for Laryngectomy. (Ueber ein Hindernis bei der Kehlkopfexstirpation nebst einigen Bemerkungen zur Technik der Operation.) C. Pochhammer.
71 Occlusion of Ureter by Non-malignant Bladder Tumor. (Ureterverschluss durch gutartige Blasengeschwülste.) O. Rumpel.
72 *Transplantation of Human Ovaries. F. Kayser.
73 Recognition and Military Importance of the "Psychopathic Constitution." E. Stier.
74 *Cerebral Syphilis During the Secondary Stage. (Zur Kenntnis der Gehirnsyphilis im Sekundarstadium.) H. Löhe.
75 Behavior of Retina with Choroidal Tumors. (Zum Verhalten der Netzhaut im Bereiche von Aderhauttumoren.) O. Napp.
76 *Diagnosis of Intraocular Tumors by Transillumination. (Diagnose intraocularer Tumoren mittels Durchleuchtung des Augenhintergrundes.) Langenhan.
77 *Eye-Migraine Caused by Unsuspected Frontal Sinusitis. (Augenmigräne und Stirnhöhlenerkrankung.) Oertel.
78 Portable Apparatus for Sterilization of Drinking Water of Troops in the Field. (Zur Trinkwasserversorgung der Truppe im Felde.) W. Hoffmann and K. H. Kutscher.
79 Motor Wagons in the Army. (Kraftwagen im Heeressanitätsdienste.) G. Schmidt.
80 The Founding of Berlin University. A. Köhler.
81 Pathologic Histology in the Service of Surgery. H. L. Posner.
82 The New Building of the Military Medical Academy. (Kaiser Wilhelms-Akademie.) O. F. Paalzow and Zeyss.

63. **Diagnosis of Typhoid.**—Wagner expatiates on the importance of bacteriologic confirmation of the diagnosis of typhoid, citing a typical case of sepsis simulating typhoid, but after all, he says, the general impression of the clinician is the most important factor in differentiation.

64. **Paratyphoid Infection.**—Hübener remarks that the clinical picture of paratyphoid infection is far from resembling typhoid, and the name is a misnomer. Infection may occur from man, from diseased animals and from inanimate nature. The bacilli have been found in healthy animals, horses, pigs, beeves, mice, rats, guinea-pigs, rabbits and dogs. The bacteria of the paratyphoid group possess an elective action on the digestive tract even when they do not enter the body by the mouth, and further the faculty of inducing septicemia, penetrating into all the organs, glands and muscles and setting up catarrhal, hemorrhagic and suppurative, necrotic processes. He adds that Sanarelli's yellow fever *Bacillus icteroides* is a paratyphoid bacillus; bacteria of this group have been found in the blood in scarlet fever, measles, malaria, tuberculosis, pneumonia, tonsillitis, meningitis and typhoid and a long list of local processes. It is probable that they may change from a saprophytic to a pathogenic existence if the body becomes weakened by any general or local infection.

68. **Traumatic Origin of Fat Embolism.**—Bergemann ascribes fat embolism to the crushing of the bone tissue forcing fat into the veins in the bones. His clinical experience indicates the importance of refraining from crushing the bone in operations.

69. **Cosmetic Treatment of Facial Paralysis.**—Momburg has treated 5 patients with disfigurement from facial paralysis by carrying a wire loop from the malar bone to the corner of the mouth, through the soft parts of the cheek. By this means it is possible to draw the mouth up and improve the aspect remarkably. He has modified Busch's original technic by passing the wire around the malar bone and giving the loop a broader hold at the mouth. He prefers to operate under the first whiffs of ether. The article is illustrated showing the patients before and after, and the bayonet-shaped needle which passes readily through the cheek tissue.

72. **Transplantation of Ovary.**—Kayser was obliged to remove a tubo-ovarian cyst four years after the other ovary had been removed. As part of the ovary at the last operation seemed to be normal, he transplanted two wedge-shaped pieces in the thigh. The patient was a woman of 32 and menstruation apparently continued while there were no symptoms at any time of the artificial menopause. The menstrual hemorrhage is a little more profuse than formerly, and the intervals irregular. He reviews the experiences of others in this line and declares that transplantation of ovarian tissue must now be regarded as fully established on a broad physiologic basis as a means to preserve women from the severe injuries following the loss of the internal function of the ovaries.

74. **Brain Syphilis in the Secondary Stage.**—Löhe gives the details of two cases of cerebral disturbances, in the first, coming on only three months after syphilitic infection, receiving prompt and energetic mercurial treatment but proving rapidly fatal from arterial disease and incipient meningitis. In the second case initial sclerosis and hemiplegia were noted only twenty-four days after infection, but they yielded to calomel. Both patients were robust soldiers of 28 and 31. The cerebrospinal fluid in each case gave a negative Wassermann reaction, while the serum was strongly positive.

76. **Transillumination of the Eye.**—Langenhan has been applying Hertzell's method of transillumination of the fundus from the throat outward, and found it very useful for the early diagnosis of intraocular tumors of the rear segment of the eyeball. It is especially valuable for differentiating such from serous accumulations under the retina.

77. **Ocular Migraine and Frontal Sinusitis.**—In the case described by Oertel there was a chronic catarrhal inflammation of the right frontal sinus entailing periodical attacks of intense migraine, as the secretions accumulated and compressed the nerve terminals in the orbit. Notwithstanding the long duration of the sinusitis there was no pus. The case teaches the importance of examination of the nose and sinuses even with purely functional affections of the eye.

Deutsche medizinische Wochenschrift, Berlin

June 23, XXXVI, No. 25, pp. 1161-1208

83 *Surgical Treatment of Lupus. E. Lang.
84 *Finsen Treatment of Lupus. F. Zinsser.
85 *Radium Treatment of Lupus. P. Wichmann.
86 *Treatment of Lupus by Other Methods. E. Gottschalk.
87 *Perforation of Gastric Ulcer. (Ueber Ulcus ventriculi perforatum.) K. Heinemann.
88 Inflammatory Pseudocarcinoma of the Appendix. (Die entzündlichen Pseudo-Karzinome des Wurmfortsatzes.) R. Milner.
89 Size of the Heart in Various Diseases. (Herzgrösse bei verschiedenen Krankheiten.) S. Wideröe.
90 *Association of Diabetes with Constitutional Asthenia. (Zusammentreffen von Diabetes mellitus mit asthenischer Konstitutionsbeschaffenheit.) G. Graul.
91 *Eye Symptoms with Frontal and Ethmoidal Sinusitis. (Augensymptome bei Erkrankungen der Stirnhöhle und Siebbeinzellen.) A. Gutmann.

83 to 86. **Treatment of Lupus.**—This number of the *Wochenschrift* gives an oversight of the status of treatment of lupus to date, surgical treatment, Finsen, radium and other methods of treatment being described by experts with long experience in their several lines, as presented at the recent lupus conference at Berlin. The discussions that followed the various papers are also given in full. A combination of the various methods was advocated for many cases, and fine results were reported in many instances, not only from the well-equipped clinics for surgical and Finsen treatment, but also by the dermatologist, especially when he had called on a laryngologist and rhinologist to take charge of the affected mucosa. Veiel reported a case in which such associated treatment resulted in the complete cure of lupus involving the entire face, nose, palate and larynx. The cosmetic results are better, he declared, the longer the wound takes to heal. He makes much use of pyrogallol, believing that the results with it are second only to those of Finsen treatment. Several

reported that the lupus had continued to progress under Roentgen rays and that their experience compelled them to advocate treatment on surgical principles from the start. König declared that the excision is usually not radical enough —many patients with extensive lupus tell of having the first lesion excised in early childhood. It is astonishing, he adds, to what a depth the lupous tissue can penetrate. Doutrelepont has obtained good results with the method devised by Payr, described in THE JOURNAL, Nov. 13, 1909, page 1701. The lupous patch is undermined and iodoform gauze drawn through underneath the bridge flap thus made. Fabry and others always precede pyrogallol treatment with energetic curetting. The experience of Lang of Vienna includes 441 lupus patients treated by radical excision of a total of 745 foci, including 250 on the face. Of the 308 patients traced to date, the cure has been permanent in 276, the interval ranging from one to sixteen years. He urges the dermatologist to train himself to be his own surgeon for lupus. As the overwhelming majority of his patients needed but a single operation, the expense and time required cannot be compared with those of radiotherapy.

87. **Perforation of Gastric Ulcer.**—The diagnosis is generally easy but the question as to when and how to operate is still open to discussion, Heinemann remarks. He thinks that cautious lavage of the stomach as a preliminary to operating can do no harm while it may afford useful information as to the site and extent of the opening. Fully 60 per cent. of the patients with perforation of a gastric ulcer are now saved; the results depend on the resisting powers as well as on the length of the interval before the operation. The gastric juice generally ensures that the stomach content is sterile, and consequently infection is not threatening. Shoemaker's patient recovered although seven days had elapsed before operative treatment and general peritonitis had developed. Heinemann found the stomach content still sterile two weeks after its removal after a test breakfast, although it had been kept in the incubator all that time.

90. **Coincidence of Diabetes with Universal Asthenia.**—Graul states that in a total of 170 diabetics he has encountered only 4 presenting the constitutional anomaly which Stiller calls asthenia universalis. These 4 patients were from 18 to 40 years old, and the diabetes was evidently of nervous origin: an inherited predisposition to diabetes was manifest in each case. The cases were further distinguished by the fact that the syndrome remained mild, no tendency to a progressive course being evident in any instance during the five years and more that the patients have been in his charge. The universal asthenia seems rather to increase the tendency to nervous diabetes, but at the same time it seems to keep the diabetes in a milder form than is generally the case in the young.

91. **Eye Symptoms with Sinusitis.**—Gutmann reports some cases to show the ocular symptoms liable to be encountered with frontal, sphenoidal and ethmoidal sinusitis before and after operative treatment. The danger of involvement of the optic nerve is especially imminent with ethmoidal empyema. In a number of cases on record central scotoma was an early symptom of ethmoidal sinusitis, encroaching on the eyeball, although in some instances the sinus contained only polypous growths and no pus. Their prompt removal saved vision in some cases but the operation came too late in one of the personal cases reported.

Jahrbuch für Kinderheilkunde, Berlin

June, LXXI, No. 6, pp. 655-804

92 Importance of Reduction of Whey in Infant Feeding. (Bedeutung der Molkenreduktion für die Ernährung junger Säuglinge.) H. Helbich.
93 Raw Milk in Infant Feeding. (Zur Frage der Rohmilchernährung.) K. Bamberg.
94 *"Albumin Milk" in Infant Feeding. (Ueber "Eiweissmilch.") H. Finkelstein and L. F. Meyer.
95 Three Cretins in a Vienna Family. R. Eller. Commenced in No. 5.

94. **Sugar-Poor Mixture for Infant Feeding.**—This is the continuation of the article reviewed in these columns July 2, page 93. The experiences with the new "albumin milk" with 144 infants are here summarized in detail, with especial regard to pathologic conditions in the children.

Medizinische Klinik, Berlin

June 19, VI, No. 25, pp. 967-1006

96 System of Examining the Sensory Functions. (Zur Methodik der Sensibilitätsuntersuchung.) T. Ziehen.
97 *Cocainization of the Pericardium to Prevent Disturbances from its Irritation During Operations. (Herzstörungen durch Reizung des Perikards.) M. Heitler.
98 *Spontaneous Hemorrhage into the Bed of the Kidney. (Spontanblutungen in das Nierenlager.) P. Pick.
99 Tincture of Iodin Sterilization of the Skin. (Zur Jodtinktursterilisation nach Grossich.) W. Kausch.
100 Metastatic Gonorrheal Conjunctivitis. H. Davids.
101 *Chronic Chorea. Kuckro.
102 Contact with Gonococci not Necessarily Followed by Infection. (Zur Frage der Kupierung der Gonorrhoe.) Heilig.
103 Nitrites in Relation to Cause of Cholera. (Bedeutung der Nitrite, der salpetrigen Säure und des Stickoxyds bei Cholera indica.) R. Emmerich and V. R. Stühlern.

June 26, No. 26, pp. 1007-1042 and Supplement

104 *The Psychic Epidemic now Prevailing Among Physicians. (Eine psychische Epidemie unter Aerzten.) A. Hoche.
105 *Nystagmus. St. Bernheimer.
106 Extraperitoneal Cesarean Section. (Zur Indikationsstellung und Technik des extraperitonealen Kaiserschnittes.) A. Strempel.
107 Pathogenesis of Febrile Visceral Syphilis. O. Hermann.
108 Pathologic Fixation or Displacement of Abdominal Organs and Roentgen Diagnosis. C. B. Schürmayer.
109 Treatment of Nervous Impotency. E. Kantorowicz.
110 Prophylactic Appendicectomy. (Nochmals die Appendix bei gynäkologischen Laparatomien.) F. Weisswange.
111 Functional Tests of the Pancreas. (Zur Functionsprüfung des Pankreas.) A. Staniek.
112 Appendicitis. (Aktuelle Fragen aus dem Gebiet der Appendizitislehre.) A. Ebner.

97. **Cocain to Prevent Irritation of the Pericardium During Operations.**—Heitler suggests the possibility of keeping the heart action regular by local application of a 10 per cent. solution of cocain during operations involving the pericardium. He bases this suggestion on the experiences with dogs, the pericardium showing itself extremely sensitive to the slightest touch, while under the influence of cocain the heart rhythm persisted regular throughout.

98. **Spontaneous Hemorrhage into the Bed of the Kidney.**—Pick adds another to the few cases on record of spontaneous pararenal hemorrhage. His patient was a woman of 53 who eight years before had had gall-stone colic. She was suddenly seized with violent pains in the right abdomen, with other signs of cholelithiasis. Only during the operation was it discovered that the trouble was a retroperitoneal hematoma in the bed of the kidney. Differentiation is difficult and the prognosis unfavorable without prompt surgical treatment, which proved successful in his case.

101. **Chronic Chorea.**—The positive Babinski on the left side and the fact that a brother of the youth affected had chorea minor, suggested to Kuckro an organic basis for the chronic chorea in the first case reported. There were occasional normal intervals but the recurrences were so numerous and frequent that the case may be styled chronic. In a second case right hemichorea developed three years after an attack of apoplexy in a man of 64. In a third case the chorea developed suddenly and persisted uninterrupted to date, that is, for 47 years. There must have been some poliomyelitic lesion responsible for the chorea in this case. In two other cases of chronic chorea without inherited predisposition, a man of 42 developed the chorea which has persisted for 20 years, while in the other case the chorea came on at 42 and persisted for over three years to date. In this case there were signs of chronic lead poisoning.

104. **A Psychic Epidemic Among Physicians.**—Hoche thus refers to the present vogue of Freud's conceptions as to the "sexual neuroses," a large number of nervous and psychic disturbances being ascribed by Freud to conscious or subconscious influences in the sexual sphere during the preceding years or childhood. (An abstract bearing on this subject was published in THE JOURNAL, July 17, 1909, page 244.)

105. **Nystagmus.**—After discussing nystagmus in general and its interpretation, Bernheimer reports a case in which it was evidently, he thinks, of purely cortical origin, elicited by psychic influences. The eyes functioned normally, vision was normal and yet covering one of the eyes was followed at once by horizontal nystagmus in both eyes, which continued until the patient could see again with both eyes. There was some tendency to neurasthenia but the patient, a waiter, 28 years old, was otherwise apparently healthy.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

June, XXXI, No. 6, pp. 687-808

113 *Treatment of Contracted Pelvis. (Zur Therapie des engen Beckens.) K. Menge.
114 Experiences with Contracted Pelvis at Prague and Giessen. O. v. Franqué.
115 *Insufficiency, Atony and Hyperplasia of the Uterus and Uterine Hemorrhage. A. Theilhaber.
116 Importance of Lecithin for Differentiating Various Species of Hemolytic Streptococci. E. Sachs.

113. **Treatment of Contracted Pelvis.**—Menge comments on the revolution that has taken place since the dawn of the new surgical era in obstetrics, the amazing result having proved to be that now far more births occur by the spontaneous forces of Nature than before. As the obstetrician knows that he has the choice of several operative methods for delivering the woman at any moment, he now placidly waits until Nature has done all that she possibly can before he attempts to interfere. And he finds that she is able to accomplish far more than he used to suppose her capable of. There is no danger now of letting the proper moment for interference pass, as he used to dread when prophylactic measures, version, etc., were his sole reliance. Menge consequently advises the general practitioner to send to some institution all parturients with a conjugata vera of 5.5 cm. or under, and also those with a diameter between 5.5 and 7.5 cm. if the child is still living. If the fetus is dead, he can manage the case himself. But for all pelves over 7.5 cm., he should manage the case on strictly aseptic conservative principles, and with cephalic presentation strive to realize a spontaneous natural delivery, which is generally attainable. If spontaneous delivery is impossible he advises sending the woman to an institution or even craniotomy of the living child. The latter is rarely necessary if Nature is given time to do her work.

115. **Insufficiency of the Uterus and Hemorrhage.**—Theilhaber emphasizes the importance of muscular contraction for the arrest of hemorrhage, regarding excessive uterine hemorrhage as often due to muscular insufficiency of this organ. Not only anatomic but also functional disturbances in the uterine musculature may be responsible for the continuance of hemorrhage. An atonic uterus is not always insufficient, but insufficiency of the uterine musculature is usually a consequence of atony, although it may be due to other causes. The insufficiency becomes manifest when there is a lack of proportion between the blood content of the uterus and the development of its muscle. In 62 cases of uterine hemorrhage under the age of 19, he found the uterus unusually small in 58; in only 4 was it of normal size. Excessive hyperemia in an insufficient musculature is liable to entail hemorrhage from it, and sexual excitement, maintaining the hyperemia in the uterus, is an important factor in uterine hemorrhage. He adds that masturbation is extraordinarily prevalent among women, especially in the years of greatest development, but also later. The uterus accommodates itself poorly to frequent sexual excitement. In a typical case a widow of 46 had sacral pains, evidently rheumatic; the uterus was large and hyperplastic, menses normal. A year later she returned for relief from violent uterine hemorrhages. She acknowledged that she had an "affinity" and had been inclined herself to ascribe the hemorrhages to her liaison. Meat and alcohol are liable to induce congestion in the uterus and thus entail hemorrhage; abstinence from both has sometimes aided in the cure of long persisting uterine hemorrhage, in his experience, especially among girls. He thinks that the assumption of a hyperemia in excess of what the musculature can take care of amply explains uterine hemorrhage in many cases.

Münchener medizinische Wochenschrift

June 21, LVII, No. 25, pp. 1321-1376

117 *Present Status of Operative Treatment of Ear Disease. (Der gegenwärtige Stand der Otochirurgie.) B. Heine.
118 Pantopon. H. Sahli.
119 Means to Influence the Breathing Capacity. (Die Beeinflussung der Mittellage der Lunge bei Gesunden.) J. Forschbach and A. Bittorf.
120 Tuberculin Immunity. (Ueber Tuberkulinimmunität.) F. Hamburger and R. Monti.
121 *Diagnosis of Large Retroplacental Hematoma. A. Mayer.
122 Route of Infection and Course of Pneumococcus Meningitis. J. Grober.
123 *Tuberculosis and Lactation. (Tuberkulose und Stillen.) A. Deutsch.
124 Lactation Among African Natives. (Zur Frage der Stillfähigkeit.) Fock.
125 Enrichment Medium for Tubercle Bacilli. (Zu dem Zahnschen Anreicherungsverfahren für Tuberkelbazillen.) P. Mende.
126 Swallowed Foreign Bodies in Hernia. (Fremdkörper im Bruchdarm als Ursache schwerer Komplikationen.) E. Fabian.
127 Double Tubal Pregnancy. (Doppelseitige Tubarschwangerschaft.) F. Süssmann.

117. **Management of Otitis Media.**—This dissertation is addressed to the general practitioner and among the points emphasized by Heine is the necessity for being on one's guard against complications after the drum membrane has perforated and the patient feels no further inconveniences beyond the persisting suppuration and the deafness. These cases with no external manifestations are insidiously dangerous, and persons over 40 seem to be most predisposed to this form. Among the 63 fatal cases of uncomplicated suppurative meningitis at the Berlin ear clinic, 31 were due to acute and 32 to chronic otitis media. Twelve of the chronic cases were in patients between 11 and 20, while 16 of the fatal acute cases were in persons over 40. This age should therefore suggest extra caution, and he urges the mastoid operation systematically when the suppuration has persisted for 6 or 8 weeks, even when there are no serious symptoms, especially for persons over 40. In the young the mastoid process is less compact, and it does not offer such resistance to the penetration of the pus. In other cases there may be no symptoms, but the experienced eye will note that the lumen of the auditory canal is growing smaller, the rear upper wall is sinking down, a sign of more pus in the antrum than can be voided through the opening in the membrane. The sinking of the wall is merely the swelling over a focus of periostitis. Operative treatment should be sought at once, as also when the suppuration increases and the canal fills up again at once after it has been cleaned out, showing that there must be some reservoir in the mastoid. Diabetics are particularly liable to profuse suppuration of this kind in consequence of rapid breaking down of the bone, although there may not be the slightest pain. Facial paralysis is also a sign that speedy operation is required, as it shows that the nerve in its passage through the mastoid has become involved in the lesion. The Bier suction and constriction hyperemia method of treatment is too uncertain and may allow the proper moment for operation to slip past. Heine differentiates a lesion in the bone from one in the mucosa in the chronic cases by the aspect of the drum membrane; in the bone cases—which always indicate operative treatment, if suitable medical measures do not promptly cure—the perforation of the membrane is in the outer edge while with a mucosa suppuration it is central, always surrounded by membrane tissue, and this latter form does not require surgical treatment. If in the later course of an acute or with a chronic otitis media in an adult, the temperature goes up and no other source for this can be discovered, this indicates either meningitis or pyemia as a rule. Serous meningitis generally retrogresses after the mastoid lesion has been evacuated, and repeated lumbar puncture may benefit. If meningitis can be excluded, the transverse sinus should be exposed its entire length. If found bathed in pus and if the fever has not been of long duration, this may be enough in itself; otherwise the sinus should be opened and the thrombus removed. He adds that Pitt found that 1 death in each 158 at a London hospital was the result of middle ear disease; Gruber, 1 in 173 at Vienna, and his own experience has been 1 in 154; that is, 70 deaths for which otitis media was responsible out of 10,830 autopsies. At the Berlin ear clinic, in 22 years there have been 118 cases of otitic pyemia, 77 of uncomplicated suppurative meningitis and 51 brain abscesses. Only 21.4 per cent. of his own series of 40 patients with brain abscesses recovered, mostly already complicated with sinus thrombosis or suppurative meningitis; 50 per cent. of his patients with sinus thrombosis were saved by the operation.

121. **Diagnosis of Large Retroplacental Hematoma.**—Mayer refers to the cases in which there is no external hemorrhage, but vigorous and painful labor contractions continue after the birth of the child; the uterus feels large and hard, even taut. Suddenly the patient complains of nausea, the radial pulse grows almost imperceptible and the uterus is felt growing larger. All the blood escaping has accumulated behind the

placenta and the uterus reacts with extremely painful contractions. When this condition is recognized, the placenta should be at once removed, thus sparing the patient further loss of blood.

123. **Tuberculosis and Lactation.**—Deutsch found that lactation constantly manifested an unfavorable or even pernicious influence on the progress of the tuberculosis in 30 certainly tuberculous mothers and 14 suspects. Four other tuberculous women who did not nurse their children were much better off physically than the nursing group. The children nursed by the tuberculous women developed tuberculosis later in a much larger proportion than the children artificially fed. In some of the families the nursed children died of tuberculosis, while following infants, fed artificially by the same tuberculous mothers and without any improvement in the environment, grew up healthy.

Therapeutische Monatshefte, Berlin

June, XXIV, No. 6, pp. 281-336

128 *Medical Reprints and the Advertising of Proprietaries. (Reklame durch Sonderabdrucke.) W. Heubner.
129 *The Coincidence of Oxyuris and Chronic Constipation. (Notiz betreffend das Nebeneinandervorkommen von Oxyuris und chronischer Koprostase.) W. Ebstein.
130 Action of Yohimbin Salt in Reducing the Blood Pressure. (Ueber "Vasotonin," ein neues druckherabsetzendes Gefässmittel.) F. Müller and B. Fellner, Jr.
131 Operative Measures in Treatment of Internal Ear Disease. (Operative Eingriffe bei Erkrankung des Ohrlabyrinths.) Graff.
132 Local Application of Fullers' Earth in Treatment of Leucorrhea, Etc. (Zur Bolustherapie des Ausflusses, etc.) M. Nassauer.
133 Absorption and Elimination of Some Salicylates. (Resorption und Ausscheidungsdauer einiger Salizylpräparate.) E. Pinczower.

128. **Medical Reprints and the Advertising of Proprietaries.**—THE JOURNAL mentioned last May, page 1731, Heubner's article commending the step taken by the *Therapeutische Monatshefte* in refusing further to supply manufacturing chemists with reprints of articles that have appeared in its columns for them to distribute with their advertising matter. The editor of the *Therapie der Gegenwart*, Dr. G. Klemperer, followed with the statement that he saw no necessity for this step and should continue to supply the commercial firms with reprints if requested. Heubner here replies to Klemperer, showing that the moral effect of a reprint, with the stamp of the journal and its moral backing, is far more potent than mere extracts culled from the journal and sent out by the manufacturing firm—the physician receiving such advertising matter knows what to think of it. Klemperer's plea that physicians ought to be kept posted in regard to good publications on good remedies, and that it is up to the editors of the medical journals to see that the articles in their columns are really valuable ones, is replied to by Heubner as follows: "The reprints in question are on new remedies, and it is too early to decide whether they are going to prove truly 'good' or 'bad' in their ultimate therapeutic outcome. Any physician using the new drug must understand that it signifies an experiment on the living subject, but his appreciation of this fact is too often dulled by the moral influence of the reprint." In respect to the editors of medical journals being always able to sift the good from the bad articles offered them, he remarks "I can only admire Dr. Klemperer's confidence in his judgment in this respect. As for myself, I regard the task of passing critical judgment on reports of clinical or ambulant study of the therapeutic workings of a new drug, as the most difficult and the most ticklish of all the tasks that ever confront me." Klemperer stated that he could look back on his twelve years of editorship with complacency, "confident that no cuckoo's egg had been smuggled into the columns of his journal." To this Heubner remarks that he could point out several articles in the other's journal in the twelve years in question which he is convinced are of the cuckoo egg variety. He adds that articles of this kind have not been in the *Therapie der Gegenwart* alone, but also in his own journal and in the leading weeklies, and he does not reproach Klemperer on this account, but merely takes exception to his view that editors of medical journals are always able to tell the chaff from the wheat. The medical press, he says, is the arena where the Valuable has to fight for its right to survive, and if Klemperer continues to supply reprints to the manufacturing chemists then he will sometimes be found to be lending the influence of his name and journal to bad articles on bad drugs. Heubner adds that it not infrequently happens that the manufacturers keep on sending out laudatory "literature" when the writers have since retracted their first announcements. The main point is that the "literature" is culled from the standpoint of business interests, and this is fostered by the supplying of medical reprints, rendering impossible an impartial, objective opinion. He continues that he does not see the necessity for keeping every physician fully posted in respect to every new drug or modification of drugs that comes out. A physician who "uses" the "literature" of the manufacturers but does not keep abreast of the times otherwise by reading, visiting annual meetings, congresses, etc., should not feel that he is especially called to "test" the new drugs. Any one who looks around him can keep himself better posted from the reports of society proceedings, etc., in the leading journals than is possible from the favor of the drug manufacturers. In conclusion he urges the readers of medical journals to express their opinion on the matter.

129. **Helminthiasis and Chronic Constipation.**—Ebstein cites an instructive case to show that it does no permanent good to treat helminthiasis alone without curing the tendency to chronic constipation at the same time. For this a course of treatment in some institution is almost indispensable. In the case reported severe disturbances from the oxyuris kept recurring again and again notwithstanding repeated courses of treatment by various physicians. It was finally banished by systematic large oil and saline enemas according to Ebstein's method. The patient was a merchant, 20 years old, who had suffered from the helminthiasis since childhood.

Wiener klinische Wochenschrift, Vienna

June 23, XXIII, No. 25, pp. 919-962

134 *Seroreaction with Extract of Beef Myocardium in Diagnosis of Syphilis. (Die Cuorinseroreaktion zur Diagnose der Syphilis.) Y. Teruuchi and H. Toyoda.
135 Suture of the Heart. Four Cases. (Kasuistische Beiträge zur Herznaht.) O. Föderl. (Fall von geheilter Herznaht.) A. de Grisogono.
136 *Early Symptoms of Serum Sickness. (Frühsymptome der Serumkrankheit.) R. Pollak and B. Mautner.
137 *Predisposition to Tuberculosis in Young Children. (Bemerkungen über den Habitus tuberculosus im frühen Kindesalter.) J. K. Friedjung.
138 *The Ultimate Fate of Children with Inherited Syphilis. (Die gesundheitlichen Lebensschicksale erbsyphilitischer Kinder.) K. Hochsinger. Commenced in No. 25.
139 Folklore History of Medicine. (Der Aber- und Wunderglaube in der Chirurgie früherer Jahrhunderte.) E. F. Heeger.

134. **Serodiagnosis of Syphilis.**—In this communication from the Tokio institute for infectious diseases Teruuchi and Toyoda report promising experiences with a specific reaction for syphilis with the reagent isolated from beef myocardium. This reagent seems to have a specific action with syphilitic serum, the results paralleling the Wassermann reaction in nearly every case, although the latter seems to be more truly specific.

136. **Early Symptoms of Serum Sickness.**—Pollak and Mautner noticed a swelling of the glands in the region after injection of horse serum in 100 children. Nearly every child reacted in some way to the injection of serum although the reaction to the first injection was rudimentary in the majority. The reaction was unmistakable in all after a second injection, showing a marked difference between this and the first injection. The fully developed picture of serum sickness was much more common after serotherapy of scarlet fever than with diphtheria antitoxin, as with the former up to 200 c.c. was injected, while the dose of antitoxin was generally 5 or 10 c.c.

137. **The Tuberculous Habitus in Infants.**—Friedjung has been studying this subject for over ten years and has found that almost invariably infants and young children who develop tuberculosis later are those with the paralytic thorax, delicate, dry skin, and long dark eyelashes with blonde hair, deep blue iris with a darker outer margin, and lanugo between the shoulder blades, over the deltoid, on the forearm, and on the legs and temples. Brunettes lack the striking difference between the color of the hair and eye lashes. These characteristics were encountered so often with tuberculosis in children and adults that he accepts a causal connection between them. The Pirquet test applied to 29 such infants gave a positive

result in 11 although there was nothing to indicate tuberculosis otherwise. The reaction became positive in larger proportions with increasing age, and he is convinced that there is a close connection between this habitus and tuberculosis, but he does not venture to decide which is primary.

138. **The After-History of Children with Inherited Syphilis.**—Hochsinger has with great effort been able to trace to date the history of 263 children born alive with inherited syphilitic taint in 134 families who have been constantly under his charge for many years. He classifies and tabulates this material, which he thinks is the first extensive study of the kind. Fully 25 per cent. grew up to be healthy adults and only 14 per cent. of the children died during the first year. The financial position of the families insured good care for all the children. The findings confirm the fact that syphilis in the parents has a more injurious influence on the physical and mental development of the offspring than is observed with any other disease. Even when the inherited syphilis does not manifest itself as such, it may render the children physically and morally unfit for their proper place in society. He found that when puberty had been passed without manifestations, there was every probability that the individual would permanently escape them. The manifestations were more severe when the children showed the effect of inherited syphilis most notably in early childhood. Among the 72 healthy adults, 21 showed traces of their inherited taint, saddle-nose in 19, hyperostosis of the skull in 17, and scars on the lips in 7. Excluding these, there are thus only 51 absolutely normal out of the 208 under observation from 4 to 24 years. The tendency to migraine he ascribes to the hypertrophy of the skull and hydrocephalus, entailing a lack of proportion between the capacity of the skull and skull content. The Wassermann reaction was positive even when there were no signs of the inherited taint, and this with a remarkable persistence, notwithstanding mercurial treatment. The positive reaction was sometimes obtained with children who have always been free from any sign of the inherited taint. The severity of the infection at birth seems to be of supreme importance for the later fate. None of the children with pronounced symptoms soon after birth grew up healthy. In some of the families the children displayed a tendency to moral insanity which he attributes to their syphilitic inheritance. The cause of many cases of defective physical, mental and moral development may remain a mystery until suddenly cleared up by discovery of a history of syphilis in the parents. When it is noted that several children in a family display this nervous, irritable tendency, a family history of syphilis should be suspected. Severe disturbances in the central nervous system from the inherited taint generally develop at puberty if at all.

Zentralblatt für Chirurgie, Leipsic

June 25, XXXVII, No. 26, pp. 881-904

140 Experimental Firearm Wounds of the Skull. (Zur experimentellen Erzeugung der sogenannten "Krönlein'schen Schädelschüsse.) E. Bircher.
141 Improved Technic for Chondrotomy. (Neue Methode der Rippenknorpelresektion bei Lungenemphysem.) H. Krüger.

Zentralblatt für Gynäkologie, Leipsic

June 25, XXXIV, No. 26, pp. 865-896

142 *Extraperitoneal Cesarean Section Does not Entail Danger of Rupture of Uterus in Following Childbirths. (Extraperitonealer Kaiserschnitt und Uterusrupturgefahr bei späteren Entbindungen.) F. Lichtenstein.
143 *Plaster of Paris as Dressing for the Vagina. (Ueber Tamponbehandlung und Austrocknung der Scheide.) E. Kraus.
144 Fibroma of Round Ligament. F. v. Zur-Mühlen.

142. **Extraperitoneal Cesarean Section Does Not Entail Tendency to Rupture Later.**—Lichtenstein makes this assertion on the basis of 2 personal cases and of 9 that have been reported, in which a subsequent pregnancy and delivery progressed without any tendency to rupture, although labor lasted up to 38 hours in one case. The interval between the pregnancies was only from 10 to 15 months in 6 cases and under 26 months in the others. A longitudinal incision in the center of the cervix seems the best technic, Lichtenstein concludes from this material and theoretical considerations.

143. **Plaster of Paris as Dressing for the Vagina.**—Kraus insufflates dry plaster of Paris into the vagina to absorb secretions, having found that it takes up moisture by a chemical combination as well as by the remarkable capillary attraction which it shares with kaolin or bolus alba, which has also been commended for the purpose. He reports further good results from the use of chamomile tea for vaginal lavage.

Zentralblatt für innere Medizin, Leipsic

June 25, XXXI, No. 26, pp. 651-672

145 Serologic Behavior of the Urine. H. Pribram.

Gazzetta degli Ospedali e delle Cliniche, Milan

June 23, XXXI, No. 75, pp. 793-800

146 Appendicitis. (Note pratiche sull'appendicite.) B. Oreste.

Riforma Medica, Naples

June 6, XXVI, No. 23, pp. 617-644

147 *Serum of Blood from Goat's Renal Vein in Treatment of Experimental Nephritis. (Il siero di Teissier nelle nefriti sperimentali.) P. Tria.
148 *Anaphylaxis from Gastric Juice in Diagnosis of Gastric Cancer. (La anafilassia da succo gastrico.) S. Livierato.
149 Infantile Splenic Anemia from Leishman Bodies—Kala-azar? S. Cannata.
150 Dilatation of Cicatricial Stenosis of the Esophagus by the Mouth After Temporary Gastrostomy. P. Gilberti.

June 13, No. 24, pp. 645-672

151 *Unilateral Laryngeal Paralysis. (Caso di sindrome Longhi-Avellis. Forma associata.) G. Ferarri.
152 *Degeneration of Nerves and Recurrence of Hernia After Ligation. (Ancora di un particolare nella cura radicale dell'ernia inguinale.) C. Mantelli.
153 Progressive Muscular Atrophy Following Malaria. F. Fazio.

147. **Treatment of Experimental Nephritis with Blood from Renal Vein.**—Tria reports experiments on dogs with nephritis (induced by uranium nitrate), injected with serum from the blood of the renal vein of goats. In 8 of the 14 dogs marked benefit was apparent from the injections, while the nephritis persisted unmodified in the controls. He injected 10 to 40 c.c. of the serum according to Teissier's technic, and he reviews the literature on the subject since the latter's first communication published in 1896.

148. **Diagnostic Importance of Anaphylaxis from Gastric Juice.**—Livierato found that gastric juice from normal persons had no toxic action when injected under the dura of guinea-pigs, even in doses of 1 c.c. On the other hand, gastric juice from patients with cancer of the stomach proved rapidly fatal even in one-tenth of this amount, symptoms following when over 0.05 c.c. was injected. By preparing the animals beforehand with injections of minute doses of aqueous extract of mammary carcinoma and then injecting the minimal dose, 0.05 c.c., phenomena of anaphylaxis were observed at once when the gastric juice came from a cancer patient, but not with gastric juice from patients with ulcer or any form of non-malignant disease. These phenomena of anaphylaxis may serve to differentiate gastric cancer, he remarks, besides throwing light on the general biology of cancer. The anaphylaxis was observed in animals prepared only twenty-four hours before the test.

151. **Unilateral Laryngeal Paralysis.**—Ferarri reports a case of what he calls the Longhi-Avellis syndrome in a farmer of 59. There was first abducent paralysis and paralysis of the velum, lasting for about five years with no other symptoms except occasional dizziness, until an intense headache was followed by complete paralysis of the face and shoulder and vocal cord on this side. He compares this case with those on record, explaining the disturbances as the result of a toxic infectious neuritis of the branches of the spinal nerve involved, gradually extending backward to the nucleus.

152. **Cause of Recurrence after Herniotomy.**—Mantelli has become convinced that the nerves are liable to be injured by a ligature applied in the course of treatment of inguinal hernia, and that this injury of the nerves leads to degeneration of the tissues which they innervate.

Policlinico, Rome

June 26, XVII, No. 26, pp. 803-834

154 *Pellagra Due to Filaria in Drinking Water from Shallow Wells, etc. (Nuove ricerche sulla etiologia della pellagra. II.) G. Alessandrini.

June, No. 6, Medical Section, pp. 241-284

155 Leishman Bodies in Spleen of Children with Kala-Azar. (Studio dell Leishmanie nel succo della milza dei bambini affetti da kala-azar.) A. Tomaselli.
156 Malarial Pigment. V. Ascoli.

157 *Pathologic Anatomy of Severe Anemia with Enlargement of the Spleen. (Sulle anemie gravi con splenomegalia.) N. Pende.
158 Improved Technic for the Romanowski Staining Method. (Ricerche sulla colorazione di Romanowski e metodo rapido ottenerla.) A. Petacci.

June, No. 6, Surgical Section, pp. 241-288

159 Congenital Cystic Lymphangioma of the Neck. (Linfoangioma cistico congenito del collo.) R. Stefano. Commenced in No. 5.
160 *Early Operative Treatment of Tuberculous Osteitis of the Spine. (L'intervento precoce nell'osteite tubercolare della colonna vertebrale.) P. Sabella.
161 The Physiologic and Anatomic Relations Between Rats in Parabiosis. L. C. Zapelloni.

154 **Origin of Pellagra.**—Among the arguments presented by Alessandrini to sustain his theory of the cause of pellagra are that the seashore and mountainous regions are exempt, and that the disease ceases to spread when artesian wells are installed to take the place of shallow wells and surface drinking water. In the Gualdo Tadino district the endemic zone is distinctly separated from the immune territory by the course of two streams, but the number of cases is no larger close to the streams than elsewhere throughout the endemic zone.

157. **Anemia with Enlargement of the Spleen.**—Pende presents clinical data to sustain his view that there is no special affection that can be called splenic anemia; there may be a primary anemia accompanied by a primary splenomegaly. The anemia may be of the Banti, the Biermer periodical or pernicious progressive type, or of the leucoanemia type, or the Cardarelli type of infantile splenic anemia, while the spleen may present varying lesions with each of these types. The character of the anemia and of the splenomegaly may differ in each individual case.

160. **Early Operative Treatment of Tuberculous Lesions in the Spine.**—Sabella reports excellent results from laminectomy and resection of the diseased spinous process in a man of 47 with six healthy children. For six or seven years he had noticed occasional pains in the lumbar region and then they became so intense that he was confined to bed. Tuberculin tests were negative or dubious and no benefit was derived from medical measures, but the operation relieved him at once from the pain and insufficiency of the sphincters which had developed from compression. The cure has been complete for the six months since. The tuberculous process was restricted to a single spinous process.

Ugeskrift for Læger, Copenhagen

June 9, LXXII, No. 23, pp. 661-702

162 *Malignant Granulomatosis. V. Scheel and V. Ellermann.

June 16, No. 24, pp. 703-730

163 Occupation as Aid in Sanatorium Treatment of the Tuberculous. (Arbeidsterapi som Led i Sanatoriebehandlingen.) K. Lundh.

June 23, No. 25, pp. 731-764

164 *Disturbances of the Singing Voice and Their Causes. (Forstyrrelser af Sangstemmen med særligt Hensyn til deres Aarsager.) H. Mygind.

162. **Hodgkin's Disease.**—Scheel reports the clinical history and autopsy findings in two cases resembling Sternberg's "peculiar form of tuberculosis of the lymphatic apparatus." Ellermann follows with a second case and the case recently reported by Lichtenstein in *Hygiea* (May, 1910), is compared with them. Scheel's patients were two women of 23 and 57, the others were men. The high, frequently remittent fever and the usual polynuclear leucocytosis distinguish this syndrome, Scheel says, from ordinary pseudoleukemia, which it otherwise so closely resembles. The characteristic granuloma tissue was found in all the cases, but his first patient had no lymphatic enlargement, the granulomatosis being confined to the spleen, bone marrow and liver, and there was nothing to suggest tuberculosis; the Pirquet tuberculin test was negative and the disease ran an acute, rapidly fatal course. The number of megaloblasts suggested pernicious anemia. He states that no benefit has been derived from arsenic in these cases of malignant granulomatosis, or from the Roentgen rays in the one case in which they were applied, but that Roentgen treatment deserves further trials. Ellermann's patient was a robust man with symptoms of what was supposed to be pseudoleukemia, fatal after two years. No signs of tuberculosis were found at autopsy but guinea-pigs inoculated with granulomatous tissue from the spleen died, too soon for any conclusions as to tuberculosis. Lichtenstein's patient presented both the Sternberg syndrome and tuberculosis in various organs. Animals inoculated developed granulomas, and his further research seems to demonstrate that attenuated tubercle bacilli are able to induce the production of the granulomatous lesions without tubercle formation. He found the typical granuloma tissue in 14 out of 45 guinea-pigs inoculated with attenuated tubercle bacilli.

164. **Vocal Disturbances Affecting Singers.**—Mygind comments on the feverish haste with which possessors of a singing voice seek to train it so that they can win the laurels and emoluments of the upper circle of vocalists, while the effects of this haste keep them back. Another obstacle to their progress, he says, is that teachers often strive to force every voice to conform to their special method instead of adapting the method to the voice. As a typical case he cites that of a young woman with a light mezzo soprano whose teacher trained her voice constantly higher, with the result that there was hoarseness over the entire register and a catarrhal secretion; the patient lived in the usual environment of the poor student coming to a large city to cultivate her voice. The congested throat was relieved by local treatment but on resuming the singing lessons the condition grew worse again and the young woman had to give up singing entirely. He has had 250 patients among singers, all women but 58; all types of voices were represented in the series, but the higher registers much predominated. Chlorosis was evident in 40 per cent. of the women, and he regards this as a very important indirect factor in the development of vocal disturbances, while the most important direct factor is overuse and forcing of the voice. He discusses the various forms of local disturbances and lesions as he has encountered them, but does not refer to treatment more than to warn against injuring the delicate mechanism of the vocal chords by injudicious local measures. General treatment of the indirect causes is most important and this alone may cure the local lesions. Robust health and sound nervous system are almost the *sine qua non* for a first-class voice—the phenomenal singers are or have been nearly all of this type, and vocal students should not forget this. He urges them to take for their motto Goethe's words, *Ohne Hast aber ohne Rast*, "Without haste but without rest," which Sir Morell Mackenzie has also striven to impress on would-be vocalists.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

INDEX-CATALOGUE OF MEDICAL AND VETERINARY ZOOLOGY. Part 26. (Authors: S. to Schnyder. Pp. 95.) Part 27. (Authors: Schoch to Silvestrini. Pp. 91.) By Ch. Wardell Stiles, Ph.D., Consulting Zoologist, Bureau of Animal Industry and Albert Hassall, M.R.C.V.S., Asistant in Zoology, Bureau of Animal Industry. U. S. Department of Agriculture, Bureau of Animal Industry. Bulletin No. 39. Paper. Pp. 2168, of entire work so far issued. Washington: Government Printing Office, 1910.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION. At Its Thirty-third Annual Meeting, held in Philadelphia, June 3, 4 and 5, 1909. Official Report of the Proceedings by Grover W. Wende, M.D., Secretary, 471 Delaware Ave., Buffalo, N. Y. Paper. Pp. 289, with illustrations.

HANDBOOK FOR THE INTERNATIONAL PRISON CONGRESS, OCT. 2-8, 1910, AND THE AMERICAN PRISON ASSOCIATION, SEPT. 29-OCT. 8, 1910. Washington, D. C. Paper. Pp. 52. Publicity Agent, Mr. O. F. Lewis, 135 East Fifteenth Street, New York.

PRÉCIS DU TRAITEMENT DES FRACTURES PAR LE MASSAGE ET LA MOBILISATION. Par Dr. Just Lucas-Championnière, Chirurgien Honoraire de l'Hôtel-Dieu. Paper. Price, 3.50 francs. Pp. 267. Paris: G. Steinheil, 2 rue Casimir-Delavigne, 1910.

MONOGRAPHS ON MEDICAL AND ALLIED SUBJECTS. Published by the Rockefeller Institute for Medical Research. No. 1. Issued June 30, 1910. Paper. Pp. 130, with illustrations. New York: 66th St. and Ave. A, 1910.

FORTSCHRITTE DER NATURWISSENSCHAFTLICHEN FORSCHUNG. Von Dr. E. Abderhalden, Berlin. Volume I. Paper. Price, 10 marks. Pp. 306, with 47 illustrations. Vienna: Urban & Schwarzenberg, 1910.

THE DEVELOPMENT OF PUBLIC CHARITIES AND CORRECTION IN THE STATE OF INDIANA. Paper. Pp. 132, with illustrations. Indianapolis: Board of State Charities, State House, 1792-1910.